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ABSTRACT

A review and analysis was made of Federal work experience programs to provide the Interagency Panel for Research and Development on Adolescence with information on: (1) the effect of work experience on adolescent development, (2) the kinds of learning that occur outside the traditional classroom setting, (3) whether or not experiential learning in real life situations leads to the development of personality traits and social skills that are useful for success in life as well as success on the job, and (4) areas in need of research. Contained in this report are brief summaries of Federal programs that provide different kinds of work experience in two basic settings (school-based and non-school based environments) and a review of research found to be most frequently funded by agencies in the area of work. Some research areas identified as a result of the review and analysis include: (1) studying local and national job needs and developing a job creation strategy to meet these needs, (2) determining the effects and efficiency of changing some of the present legislation which restrict the employment of youth under age 18, (3) developing appropriate models for communication and cooperation between schools, employers, unions, and community agencies, and (4) developing effective techniques for career guidance counselors. (SB)

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A Review of Federal Job Training, Vocational, and Career Education Programs,
An Analysis of Current Research, and
Recommendations for Future Research

Prepared for the Interagency Panel
for Research and Development on Adolescence

Social Research Group
The George Washington University
Washington, D.C.

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Participating Member Agencies of the Interagency Panel for Research and Development on Adolescence

- Department of Health, Education, and Welfare (DHEW)
  - Office of Child Development (OCD)
  - National Institute of Child Health and Human Development (NICHD)
  - Health Services and Mental Health Administration (HSMHA)
    - National Institute of Mental Health (NIMH)
    - Maternal and Child Health Service (MCHS)
    - Office of Program Planning and Evaluation (OPPE)
  - Social and Rehabilitation Service (SRS)
  - Office of Education (OE)
    - Bureau of Education for the Handicapped (BEH)
    - Bureau of Elementary and Secondary Education (BESE)
    - National Center for Improvement of Educational Systems (NCIES)
    - National Center for Educational Technology (NCET)
    - Bureau of Occupational and Adult Education (BOAE)
    - Office of Planning, Budgeting and Evaluation (OPBE)
    - Bureau of Equal Educational Opportunities (BEEO)
    - Office of Drug Education (ODE)
  - Office of the Assistant Secretary for Planning and Evaluation (OASPE)
  - National Institute of Education (NIE)
- ACTION
- Office of Economic Opportunity (OEO)
- Department of Agriculture (USDA)
- Department of Defense (DOD)
- Department of Labor (DOL)

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May, 1973

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Chapter 1

INTRODUCTION

> At age fourteen the youth is hardly more than a child, he is just embarking on his secondary education and is below the legal age limit for almost all types of full-time employment; he generally has no economic responsibilities; he is just emerging from the fantasy stage of occupational aspiration and he has very little knowledge or understanding of the dimensions of the world of work. Four years later he has completed high school and, if not in the armed services, either has entered the labor market for full-time employment or has continued his education or training in preparation for a more or less specific work career. By age twenty-four, he has, in the vast majority of cases, left school permanently, has typically assumed the economic responsibilities of a family, and frequently has a more or less firm occupational commitment.[1] *

The years of adolescence which see the young person making the transition from youth to adulthood are years in which crucial and often long lasting decisions are made--decisions relating to marriage, education and life work. Because of the importance of this period of development, the Interagency Panel for Research and Development on Adolescence has prepared a special report on one aspect of adolescent growth--the area of work experience as preparation for adulthood.

The Panel is interested in knowing the effect on adolescent development of actual experience in a real work situation. They want to know more about the kinds of learning that occur in situations outside the traditional classroom setting. They particularly want to know whether experiential learning in real life situations leads to the development of personality traits and social skills that are useful for success in life as well as success on the job. The practical purpose for which the

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* See page 161 for a listing of all footnote references.

information in this report is intended, is to identify areas of research need which may be of interest to member agencies. Having research needs identified, will help agencies represented on the Panel make decisions about which areas to support, either on an individual or cross-agency basis.

In order to determine the range and direction of Federal involvement and hence possible research needs, it was decided to include descriptions of the programs providing some kind of actual work experience that are funded by Federal agencies. Then the ongoing research associated with these programs is reviewed to give a picture of the present situation with respect to certain selected program characteristics.* The specific questions this report attempts to answer in the program and research review, are the following:

1. What kind of work experience does the program provide? What is the content and setting for learning?
2. What are the specific learning objectives of the program? Are they in writing or can they be reduced to writing?
3. How are the objectives and content related to academic or school learning, i.e., is school credit given for work experience?
4. Is there an attempt to match student needs (individual or group) with program goals, content, or method of instruction? If so, by what means?

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*Because of the range and amount of activity, only current and especially relevant completed Federal research is described in this report. Additional information on completed research may be obtained from the ERIC Clearinghouse on Vocational and Technical Education at the Ohio State University.

5. Is there any measurement of behavior change resulting from the learning experience? If so, what is measured--academic learning, job skill attainment, work adjustment skills, personal and social characteristics?

6. What program-related research is ongoing, planned, or recently completed? What are the results, as reported?

The final chapter on research recommendations is based on both the program and research review and on a review of national studies pertinent to the subject of work experience.

One of the primary objectives of this report is to provide a working paper or reference to assist Panel members as they consider means of undertaking fruitful cross-agency research. The assumption is that knowing the characteristics of each agency's work experience or job training programs, as well as the kind of research each supports, will serve in helping to identify areas of mutual interest and those needing further investigation. In addition, because many of the work experience programs and related research are in the beginning stages, or, for the older programs, the research focuses on program evaluation, a state-of-the-art review of research alone, it was believed, would not have been of maximum usefulness.

Chapter 2

WORK EXPERIENCE AS TRAINING FOR ADULTHOOD

All too well known is the discontent of our nation's youth with the traditional methods provided by society to prepare them for their roles and responsibilities as adults. High teen age unemployment figures and school dropout rates, lower general college enrollments and more prevalent rejections of other societal institutions such as the home and family, are but bare bones testimonial to the dissatisfaction expressed more dramatically in instances of increasing drug usage, displays of campus unrest, refusals of military service, runaways from home, and the growth of a distinct youth culture.

The age of adolescence has been recognized generally as a time of uncertainty and frustration, at least in advanced modern societies. But there is an increase in the expressed intensity of these frustrations as evidenced by the above mentioned social phenomena. These suggest that change is urgently needed in the institutions used in the past to assist young people in making the transition from youth to adulthood. Changes are necessary not only for young people themselves to lead better lives, but for the national well-being.

This need for change is stated by Havighurst, Graham and Eberly:

> The existing combination of secondary schools, community colleges, job opportunities, military service, and early marriage has failed to meet the needs of several million young people. The indications are that it will do less well in the future and that some basic changes are needed in American secondary education, changes akin to those increasingly called for in American colleges and universities.[2]

An objective of this study is to report what the Federal government has done, is doing, or is planning to do in some of its programs to help young people make more effective preparation for their present and future lives. The basic premise is that the school as one of the major acculturation agents of society needs to be complemented, supplemented or, for some individuals, replaced with alternatives in order to provide more effective means of helping the young lead useful lives. It is postulated that the traditional school, focusing primarily on cognitive learning, does not provide the kind of comprehensive, personalized and experiential learning that preparation for adulthood makes essential. Many of the programs to be described are supported in the belief that a change in the kind of training and educational experiences made available to youth will both alleviate some of their present frustrations and provide better preparation for adulthood.

James Coleman in discussing the changing role of the schools has stressed the need for experiential learning in preparing youngsters for adulthood.

> Only if the new educational institutions resist the temptation to direct themselves principally to teaching the child can they fruitfully redirect their goals. One of these goals must be the development of strategies for coping with an information-rich and institutionally complex society; another must be the use of external activities where children are not students but contributors to a larger enterprise. Working with others under the discipline imposed by a common task and purpose is incompatible with the wholly individualistic goal of learning around which current schools are organized. And it is such involvement that is necessary to provide both a direction to life and the motivation to learn how to implement it.
>
> This principle does not mean that new educational institutions should neglect the child's learning. It means rather that a much broader conception of learning is necessary: a conception in which the roles, constraints, demands, and

> responsibilities of adulthood in a complex society are central; a conception that includes general strategies to make use of the environment to accomplish one's goals.[3]

The need for experiential learning, the kind of learning which allows students to get out into the "real world" where they can do, participate, test, create--in a word, experience, is favored by many educational spokesmen and researchers. Jerome Bruner in discussing the need for educational continuity throughout the life cycle and particularly during the period of transition into working life, has urged "that we test achievement outside the context of school, that we treat the process of mastering the culture's devices and disciplines, its tools, as a communal undertaking."[4] The idea of working with others, both younger and older, as a useful experience for young people entering adulthood is a recurrent theme in discussions of educational change.

Turning briefly to the theoreticians, the interactional or cognitive-developmental school of educational psychology deems as necessary for the organization of thought and emotion, a give and take process of interaction with the environment. The highest level of social or moral development as perceived by the interactionists, results from a process of social interaction allowing for conflict and leading to conflict resolution. "Educational intervention implies the arousal among children of genuine cognitive and social conflict, and disagreement about problematic situations (in contrast to traditional education which has stressed adult 'right answers' and has reinforced 'behaving well')."[5]

The White House Conference on Youth which convened in 1971, included a Task Force on Employment and The Economy. The report of this Task Force expressed concern with the failure of the schools to meet the individual needs of students, particularly with respect to "preparing students to move into work." Among their recommendations to make the schools more flexible and responsive, was one which would help remove a major obstacle to the usefulness of the school as a place of preparation for adulthood.

> Specifically, the general education curriculum which typically prepares students for neither jobs nor college, should be phased out and systems should be developed for integrating academic and vocational curricula. At the same time, students should be given a much greater opportunity to transfer among vocational and academic curricula and, in fact, avail themselves of offerings from both areas. These developments will not only add to the flexibility of the school system, but will also help break down the stigma all too often associated with vocational and career preparation in the schools.[6]

With regard to institutional change, it is not inconceivable that schools by reorganization and revision, could make sufficient alterations to meet the needs of today's young people, that is, to provide the necessary experiential learning. However, the majority of spokesmen and study groups believe that not only is drastic change within the school essential, but that the school must reach outside its boundaries and develop programs which will involve groups and individuals in the community to a far greater degree than heretofore. Further, arrangements and learning environments, completely independent of the schools, have been considered equally as important as school learning. Some of the supplements and alternatives to traditional school offerings that may evolve in the future will be reviewed in a following chapter.

The ongoing and planned Federal programs to be described in this report all are characterized by their provision of experiential learning in addition to cognitive learning, some of which may take place in a situation other than the traditional classroom setting. Specifically, the paper will focus on Federally sponsored occupational training or work education programs which include work experience and may or may not have a relationship with a school or school system.

Thus, the programs to be included will cover manpower training programs, cooperative education and work study programs, volunteer work programs and career education programs. Among the reasons for focusing on work experience programs are: (1) most adults spend a large portion of their lives involved in work to "earn a living" and therefore preparation for adulthood needs to include education for work, (2) the work environment is a closer approximation to adult living conditions than the school, (3) success on the job calls for qualities, skills, and attitudes which are necessary for success in other adult roles, (4) employers and communities have jobs that need doing, and (5) young people who need or want money can do these jobs.

Focus on Objectives and Measurement

We have discussed briefly the need for educational experiences which allow the learner a wide range of interaction with adults, peers, and young children in activities different from or in addition to those provided in the traditional classroom setting. Before going on to an examination of various kinds of work experience programs, it is appropriate to consider the importance of establishing criteria and measures for such programs. It has been suggested that the objectives for work experience programs should be of the kind that can help youth assume the responsibilities of adulthood. Such preparation, it has been implied, can and should go beyond not only the learning of cognitive skills but beyond training for specific task-related skills as well. If programs are to achieve the broad goal of producing capable and mature adults, program developers must identify specific capabilities that constitute adulthood, capabilities in addition to academic achievement and job skills, which their programs can then be designed to provide.

What some of these adult capabilities might be has been mentioned in the previous section. Kohlberg, in fact, has suggested a strategy based on cognitive-developmental psychology, by means of which psychological theory can be translated into objective educational aims. His interest represents the viewpoint of the researcher concerned with the need for empirical evidence to help clarify the usefulness of various program outcome measures. His paper considers strategies by which research facts can "help generate and substantiate educational objectives and measures of educational outcomes."[7] In addition, the President's Panel on Youth, in raising questions about the institutions that prepare youth for adulthood, discussed the changes in those institutions they believed would be necessary to meet certain objectives.*

Interestingly, it has been established that skills important for successful adult living are also necessary for job satisfaction and success. Effective work training therefore, may be able to instill in young people some of the skills and abilities that constitute adulthood. With regard to the skills needed for job success, Walther notes the following:

> It has commonly been observed that job failure often results, not from lack of specific abilities, but from so called personality difficulties. Experienced managers know that while every job requires some minimal level of knowledge and specific ability, after this level is reached, the determinants

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*The Report of the Panel on Youth of the President's Science Advisory Committee is not yet available for detailed analysis. It is expected to be published in the Summer of 1973.

> of job success or failure are intangible and complex and often described in such terms as 'can't stand pressure,' 'can't get along with people,' and so on.[8]

Based on 15 years of studies of psychological factors related to occupational choice, job satisfaction, and performance, Walther has identified some attributes of a worker other than the possession of task-related knowledge and skills which influence his work performance. He calls them coping skills or behavioral styles.[9] Included are the ability for planning and self-management, knowing how to react to authority, knowing when and how to use speed or accuracy in information processing, establishing a balance between competition and cooperation in dealing with others, being able to take the role of others, and having a realistic degree of optimism, self-confidence and trust in the perception of people and circumstances. Many of these are the same qualities needed for effective coping in a variety of life situations, of which work is but one instance.

The need for the specification of intended outcomes or objectives and the empirical development of outcome measures has been explored by Freeberg and Reilly in their work to develop measures for manpower training programs.

> The ability to demonstrate the effectiveness of any social program is almost completely a function of the ability to measure intended goals, or objectives, with reasonable accuracy. It is the measurement 'quality' of the variables chosen to define performance standards that ultimately makes it possible to: a) specify the degree of program success, b) feed back information for modifying and improving program components, and c) carry out meaningful research leading to increased understanding of the population served...
>
> For many governmentally funded manpower training programs, aimed at effecting broad social change, statements of program intent have often been highly general and too rarely translated into applicable behavioral objectives--both long and short term--with defined measurement requirements. Even less attention has been paid to the availability and suitability of outcome variables that would be needed to measure intended goals with reasonable continuity from study to study, or program to program.[10]

Freeberg and Reilly note the distinction between what might be called program objectives and learner or instructional objectives. With program objectives, the criteria of success consist, for example, of number of course enrollees, number of enrollees completing courses, success in job placement and/or whether or not the program continues after withdrawal of outside funding support. While these may be essential measures of success, they are subject to certain biasing effects and have other shortcomings, primarily in that they "limit available knowledge regarding which particular program components might be differentially affecting which aspects of performance." To be able to improve programs, the program developer must know what parts are succeeding and which need revision. In order to overcome the shortcomings of using program criteria alone, Freeberg recommends that measures be made of changes in the characteristics of the individual learners that may be influenced by the training program. Such changes--in work motivation, planning ability, personal adjustment--represent learner objectives as distinguished from program objectives. Specific job skill objectives, another class of instructional objectives, should also be stated in measurable terms.

Freeberg has also dealt with the problem of developing measures of program objectives based on empirical evidence rather than on rational or logical judgements.

> Without suitable information to define the value of specific criterion measures, research or evaluation studies involving work training program enrollees have been forced to depend almost entirely on rational bases (usually not made explicit by the investigator) for the choice of what can be considered untested dependent variables...Any or all such variables may be of value. The point is that there has been no systematic, empirical test of that value, in terms of measurement properties, and relationships between criteria variables, essential for determining the dimensions being tapped by any set of outcome measures.[11]

Freeberg believes it is the lack of empirically based evidence that "can often lead to ambiguous measurement" with consequent "worsening of comparability or continuity" in the conclusions reached by different studies. He points out however, there are more fruitful analytical approaches available in behavioral science and he has demonstrated a model for programmatic criterion research based on variables with the broadest applicability across programs.

Because of the importance, for the evaluation and improvement of work experience programs, of stating long and short term criteria to determine program objectives and the need for defined measurement requirements, we will pay special attention to the presence or absence of program criteria and measures in the program descriptions to follow. And because of our special interest in broad-based training we will note which programs state and measure personal skills in addition to cognitive learning and specific task-related skills.

An observation from the 1969 Report of the Joint Commission on Mental Health of Children, provides a fitting conclusion to this chapter. It expresses a somewhat different viewpoint of the role of work and at the same time summarizes the importance of providing meaningful work experience to young children and adolescents.

> Work satisfaction, security, and success play important roles in the mental health of our children and youth. Work continues to be a central part in a man's--and increasingly a woman's--sense of personal identity, significance, and status. To most Americans, it is the major source of individual and family income, a particularly critical matter in our consumer-oriented society, and thus a critical factor to the individual's mental health.
>
> Careful planning is needed if we are to solve the problems of work satisfaction in a technological society and of employment for each individual to earn a living for himself

and his family. We need to look at the facts of employment as they affect our youth. Our youth unemployment rate is the highest of any industrialized nation even though our young people stay in school longer than youth in these other countries. A large proportion of our young people are underemployed in low-paying, non-rewarding jobs that offer little future. Working-class youth find little personal satisfaction in their generally routine jobs in large organizations: work is merely a means to an end--economic security. Many of our youth, however, do not view economic security as a primary goal. Almost half of our college-trained youth are dissatisfied with the junior executive jobs in business and industry which they find open to them. They are seeking employment that is personally satisfying, creative, and directed toward social goals.

Work, like play and education, should be an integral part of the child's life, increasing in range and complexity as he grows older. Work experience should be tied to the child's developmental level and special interests and abilities. We need to experiment with new, flexible ways to find a means of involving children and youth in the work of the schools, neighborhoods, and ever-widening communities, and, at the same time, protect them from exploitation. Such an approach would be a radical one in this country, but it has much to recommend it from a mental health viewpoint. ... The act of working does have an impact on the identity formation of the child, and we must find ways to enhance this process.[12]

Chapter 3

WORK EXPERIENCE PROGRAMS AND RESEARCH ACTIVITIES FUNDED BY FEDERAL AGENCIES

This chapter will briefly summarize ongoing Federal programs that provide different kinds of work training and experience in two basic settings--school-based and nonschool-based environments--and will review some of the research within the context of the various programs. Because of the focus of this report on criteria and measures, it will be noted whether programs are intended to include learner objectives and what measures, if any, are to be used to evaluate student progress in reaching objectives. We will be especially interested in the presence of objectives which specify that coping skills or work adjustment skills are to be acquired, in addition to task-related skills. As programs are reviewed, the presence of two other characteristics will be noted--the provision of individualized instruction to meet the needs of students as individuals and the giving of school credit to students participating in work training or work experience programs.

The agencies whose programs will be discussed are the Department of Health, Education and Welfare (DHEW), the Department of Labor (DOL), ACTION, and the Department of Defense (DOD). For some agencies, the description of training programs is given separately from the review of the research pertaining to those programs. This is true of the Social and Rehabilitation Service of the Department of Health, Education and Welfare, the Department of Labor, and ACTION. For other agencies, education/training programs and research activities are described together in one section. This is the case for the work supported by the Department of Health, Education and Welfare (including the National Institute of Education efforts and in the Office of Education, the activities of the Bureau of Education for the Handicapped and the Bureau of Occupational and Adult Education). Department of Defense training programs and research are discussed together also. (In the following chapter, special kinds of research projects are described in some detail. Included there are summaries of major program evaluations, projects to develop assessment instruments, and large scale longitudinal surveys not related to any particular work experience or training program.) This chapter begins with a brief review of the legislative landmarks affecting vocational education, manpower training and other programs providing various kinds of work experience and job skill training.

Legislative Overview

As a backdrop to the description of ongoing Federal programs, some of the significant legislation of the past is summarized briefly. For a more complete description of the legislative history of work experience and training programs, see An Analysis of Vocational Education in Our Secondary Schools.[13]

Federal support of vocational training began in 1917 with the passage of the Smith-Hughes Act, although cooperative work-study programs had been initiated at the college level ten years earlier at the University of Cincinnati for its engineering students. Under the Smith-Hughes Act, vocational programs had to be designed for the sole purpose of preparing high school graduates for employment. The first $7 million allotment was spent primarily on training for occupations in home economics and agriculture, with a smaller portion allowed for trade and industrial occupations. The provision of funds to support training in specific occupations set a tradition that was to continue for many years. The shifting of large portions of funds from agriculture and home economics to more current and emerging occupations is a fairly recent occurrence and still taking place.

While there was some interim legislation, it was not until the early 1960's that Congress significantly broadened the concept of vocational education and greatly increased its financial support. With the passage of the Vocational Education Act of 1963, the original vocational education laws were amended to allow states to use funds for secondary level training in any occupation. Payments to students participating in work education programs were authorized for the first time. In addition, funds were made available for the construction of area vocational schools, teacher training, and research and evaluation projects.

The Higher Education Facilities Act of 1963 authorized funds for vocational and technical education at the post-secondary level. This Act provided for the construction of public community colleges, technical institutes and two-year branch campuses of colleges and universities. The use of funds, however, was limited to instruction in science, engineering, and related technological fields.

In addition to providing for instruction in traditional academic settings, Congress in the early 1960's passed legislation that would serve the needs of the underemployed and the unemployed--those who were out of school and out of work. One of the most significant laws was the Manpower Development and Training Act which supplies training and subsistence allowances for individuals in relatively short-term vocational training programs. The Job Corps, based on the concept of providing comprehensive services, of which occupational training was but one aspect, was established by the same legislation, while the Peace Corps, the first of the major voluntary service and action programs, was independently established in 1961.

These are but a few of the legislative landmarks of the past that provided for the establishment of the major Federal programs to be discussed below. Major legislation of the last five years, i.e., the Vocational Education Amendments of 1968 and the Education Amendments of 1972 will be mentioned in connection with the individual programs they created or the sponsoring agencies.

The descriptions to follow carry the customary titles which show the traditional agency focus. All the programs, regardless of title, provide work experience and/or job training.

Vocational and Career Education in the Schools

This section describes major work experience programs and research efforts funded by the Office of Education in the Department of Health, Education and Welfare. Other DHEW programs covered in this chapter include those of SRS and NIE.

The Amendments to the Vocational Education Act of 1963, passed in 1968, were intended to benefit all individuals, with authorization for specific programs to serve the needs of the handicapped and the disadvantaged. Not only were special funds earmarked for these groups, but it was emphasized that other programs authorized by the Act were to give attention to the disadvantaged. Special provision was made also for post-secondary and adult vocational education. In contrast to former Acts, this law does not state specifically which occupations are to receive funds for training; rather, the funds can be used to meet the specific needs of individual students and communities.

About $400 million of Federal funds were spent in FY '71 under the Vocational Amendments Act of 1968, with the total expenditure, including state matching funds, amounting to $2.3 billion.[14] A total of 10.5 million students were enrolled, of whom 1.4 million were disadvantaged persons and 209 thousand were handicapped. In addition to the various kinds of appropriations to be made under the State Grants Program (the major part of the Act) funds were authorized for exemplary programs, research, curriculum development, cooperative education and work study programs. (Activities funded under State grants are not described in this report.)

Research and Development and Exemplary Projects

The Bureau of Occupational and Adult Education in the Office of Education administers and coordinates the programs and projects funded under the Vocational Education Amendments of 1968.* Part C, which authorizes funds for Research and Development, and Part D authorizing support for Exemplary projects provide that half their allotments may be used at the discretion of the Commissioner of Education for direct financial support. On this authority, the Division of Vocational and Technical Education funded sixty-two exemplary projects in FY '72 and fifty-six research projects (as new starts or continuations). Each state and territory has at least one project funded under each program.

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* BOAE was formerly the Bureau of Adult, Vocational and Technical Education.

The Exemplary projects, which may be funded for up to three years, must be based upon prior research and development and provide for a "transition of research findings and developmental efforts to program operations." According to the law, their major objective is "to develop, establish and operate models for vocational education programs." Specific training is to be provided in job entry skills, and those with academic or socio-economic handicaps are to receive special attention. The purpose of the Research and Development efforts is to support research and training, experimental, developmental, or pilot programs to meet vocational needs, dissemination and demonstration programs and curriculum development. The States may also establish research coordinating units under the Research and Development program.

While these programs are to emphasize occupational training, the training is to be included as part of a career education approach. Under both programs each project is to have a strong guidance and counseling emphasis and, in addition, to include one or all of the following career education components. Research and Development projects may focus on one component; the Exemplary programs must include all five. The components are: (1) to increase student self-awareness, (2) to increase student awareness of career options at the elementary level, (3) to provide career orientation and exploratory experiences at the junior high level, (4) to provide job preparation in a variety of occupational areas, with special emphasis on work experience and cooperative education opportunities, for grades ten through fourteen and at the adult level; and (5) to insure the placement of all exiting students in a job, a post-secondary occupational program or a baccalaureate program. Not all the Research projects need to provide direct work experience; this depends on which components are included.

Considering these programs in terms of the four characteristics of interest in this report, we note the following. (The characteristics are: the statement of objectives, measure of student progress, individualization of instruction and school accreditation for work experience.) The policy statement for the Research program stresses that all projects "must be designed in such a way as to emphasize careful measurement of student outcomes in relation to the techniques and procedures utilized, and to provide for appropriate program revisions where indicated." This terminology indicates that as a matter of policy, these projects are to include the measure of student progress in relation to some criteria, but what is to be measured and how it is to be measured are left to the individual grantee. Thus, while in effect, learner objectives and measures are required, information as to whether these objectives include personal growth and work adjustment skills must come from the local level.

On the other hand, the criteria of success for the Exemplary programs do not appear in the policy statement. Criteria of success include what we have called achievement of program objectives. The number of students in the course, reduced dropout rates, increase in overall achievement by participating students--these have been the criteria for informal evaluations of Exemplary programs.* The measurement of student progress in relation to detailed learner objectives is not required and the situation varies from project to local project.

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* See page 76 for discussion of third-party evaluations of Exemplary programs.

All of the Exemplary programs provide for direct work experience through cooperative education arrangements with employers. Thus, the potential exists for measuring the attainment of broad adjustment skills as well as specific occupational skills. A questionnaire survey of the Exemplary programs will attempt to collect specific information about learner objectives and measures, but the results are not presently available. The measure of competency in actual job skills is done by the participating employer.

School credit is generally provided for work experience under Part C and D programs, with the kind and amount of credit dependent on the grading system of the local school district. As for individualization, the very concept of career education, as well as the strong emphasis on counseling and guidance, tends to create individualization of instruction if it did not exist before and to enhance it when it does exist.

Third party evaluations of the projects first funded under the Exemplary program will be available in a few months as final reports. A summative evaluation of the entire Part D program will be funded in FY '73 and completed the following year. The Research and Development projects, first funded, had not completed their contract period at the time of writing.

Work Experience Programs

Parts G and H of the 1968 Amendments authorized the funding of the Cooperative Education and Work Study programs, respectively, both of which provide for actual on-the-job work experience while the student is still in school. (Here the law provides for the expansion of programs already present in the secondary vocational education field. Cooperative and

Work Study programs have been the traditional methods of providing work experience for high school vocational students.) In the Cooperative Education programs, work experience is arranged with an employer to complement instruction in vocational education presented in the classroom. The student is paid for his work by the employer. The purpose of the Work Study program is to "assist economically disadvantaged full time vocational education students to remain in school by providing part time paid employment with public employers." Such job training may or may not be related to the courses the student is taking in school. Its primary purpose is to enable needy students to finish their school programs. Some of these high school work experience programs are being assessed in a special study to be completed in Summer, 1973. The study will be reviewed below.

Curriculum Development

Under Part I of the Vocational Amendments Act, 1968, specific provision is made for the development of curricula for occupational subjects. Assistance is provided at state and local levels for the development of materials for new and changing occupations and for the improvement of existing materials. The law also specifies the use of funds for the following: to develop standards for curriculum development in all occupational fields, to promote the dissemination of occupational curriculum materials, to evaluate vocational-technical education materials and their uses, and to train personnel in curriculum development. To carry out these provisions, the Curriculum Development Branch in the Bureau of Occupational and Adult Education has funded a variety of projects either in the area of curriculum management or the development of curriculum guides. Curriculum guides are defined as plans for teaching-learning programs. They include five major elements: objectives, content (concepts and principles), learning activities and teaching strategies, teaching aids (books and other materials), and evaluation (testing and validation of content and methods). Curriculum management includes decision making, planning and implementation with respect to development of curricula, dissemination of curriculum materials, systems for the delivery and administration of curricula, the preparation of personnel to adapt and use materials and the conduct of studies in the foundations of curriculum development.

To better carry out curriculum management activities, grants were made to five states in FY '72 to improve "the capabilities of state curriculum laboratories to operate as curriculum management centers." (Two more state curriculum laboratories will receive funds in FY '73.) The development of curricula for vocational-technical training is being carried out within the framework of the broader concept of career education. Thus the five curriculum laboratories receiving funds are to orient their objectives and functions "in terms of the career education concept, with vocational-technical education as a key component."

The curriculum development projects receiving support are producing student materials in a variety of occupations, for one or more of the four levels of career education. Curricula are aimed at describing ways of (1) enhancing occupational awareness (grades kindergarten through six), (2) providing orientation to the world of work (grades seven through nine), (3) assisting exploration of relevant occupations (grades seven through nine), and (4) carrying out preparation for specific jobs (grades ten through twelve or fourteen). Five projects funded in FY '71 are entering the pilot testing and validation phases, with the expectation that curriculum guidelines will be ready to publish in 1974. Curriculum materials will then be available in five career cluster areas: public service, manufacturing, communications media, transportation, and construction. These early projects focused on the exploration and preparation phases for middle and high school students. Projects funded in FY '72 included the development of curricula for elementary and middle and junior high school levels in the development of career awareness and exploration. New cluster areas addressed in FY '72 included agri-business, natural resources and environmental protection, and consumer education. In FY '73 new areas are business and office occupations and distribution and marketing.

One of the preliminary tasks in most of the curriculum development efforts is for the developer to conduct a literature review and survey of existing knowledge with respect to career education and training for a particular occupation. The requirement to synthesize past results to provide a base for present effort illustrates the scientific approach underlying these development projects.

The definition of career education applied for curriculum development includes the following components:

1) orientation to the world of work,
2) knowledge concerning occupational possibilities and career ladders and lattices,
3) occupational skills and related knowledge and abilities,
4) knowledge and abilities in such general education areas as verbal skills, mathematics, social studies, and the natural sciences related to occupational preparation,
5) moral and ethical values related to career choice, occupational performance, and the social and economic implications of the career fields, and
6) knowledge and abilities related to general employability--personal development, human relationships, nutrition, consumer education, management of resources, and responsible parenthood.

With these as stated conditions, we can look for the inclusion of information about coping and work adjustment skills, as well as specific job-related skills, in these career and vocational education curricula. In view of the fact that the program requires a statement of learner objectives and the measurement of their attainment, we may have evidence at some time in the future as to the usefulness of career education in transmitting personal growth skills, in addition to occupational and job-related skills.

Again, the search of each student for the occupation that is best for him means counseling and instruction must be on an individual basis. With regard to accreditation, there is no direct study of this planned, but a proposed project on articulation of high school and post-secondary programs in career education will provide relevant information. The purpose of the project will be "to identify and study the potential articulation problems between the secondary and post-secondary levels brought on or accentuated by career education, and to produce suggested guidelines on how to solve them if and when they do occur."

Post-Secondary Programs

As noted above, the 1968 Amendments provided under various parts of the law for the support of post-secondary vocational education. The junior and community colleges are the most common settings, aside from private proprietary schools, for post-secondary education at present. There are an estimated 1100 community colleges in the country that support both two-year vocational programs and two-year college preparation programs. Technical assistance for community colleges seeking Federal funds is provided by the Community College Education Office in the Bureau of Higher Education. Through its liaison with various funding agencies, this office helps match needs and proposals for monies with the appropriate funding source. One of the characteristics of Federal funding for community college activities is the fact that such support is provided by a wide range of Federal legislation. Many different laws have included community college support in their provisions.

The Education Amendments Act of 1972, among other things, provided for the creation of a new program in support of community colleges, as well as for important activities in occupational education at the elementary and secondary levels. Under the legislation the two levels are closely linked and in essence, provide for the extension of the career education concept. This is evident in the manner in which community college and post-secondary education are defined, and in the language describing how funds for occupational education may be used. At the time of writing, the funds to carry out these provisions had not been made available. It is hoped new support for community colleges may come from state revenue sharing programs.

The two-year community junior college from its beginnings has focused on the preparation of students for job entry or advancement, or for continued formal college education. The number of enrollees in community colleges is increasing yearly. The total student body in community colleges this year is expected to exceed 2.5 million, representing about thirty percent of the undergraduate college enrollment. Thus, these institutions are in a position to play an important role in expanding the practice of career education, where the concept is "as current as the newest of these institutions and as old as the first of them."[15]

The matching of student preferences and abilities with a program of instruction is inherent in the first principle of the community college--

to serve the needs of the individual in his community. The degree of individualization will vary from college to college, however, and even from course to course, as will the attempt to state specific learner objectives and measure their achievement. Whether programs or courses provide actual on-the-job training depends upon the individual college. The granting of full or part time credit for work experience also varies from school to school. These programs must take accreditation into consideration for the proper articulation of junior college courses with four-year college programs.

Many basic questions about the junior college--its students and the teaching, counseling, and administrative personnel--are considered in a recent report sponsored by the National Center for Educational Statistics.[16] In addition, information on all aspects of research pertaining to junior colleges may be obtained from the ERIC Clearinghouse for Junior Colleges at the University of California, Los Angeles.

As a result of the Higher Education Act of 1965, Federal participation in work-study and cooperative education programs was authorized at the college level. Under the college work-study program students are paid for part time work (fifteen hours a week or full time summer) performed while they are in an institution. The work may or may not be related to their course of study. Employers pay twenty percent of their earnings, the government, eighty percent for work in a nonprofit institution. These funds are provided for students in financial need who require funds to remain in school. $237 million were available for this program in FY '72. The first overall evaluation of this program is expected to be completed in a few months.

The cooperative education program got under way in FY '70. These are programs which alternate periods of full-time college study with periods of full time employment, which is in some way related to the course of study. In this case, employers who pay all the earnings, may be profit-making or nonprofit-making. Federal funds provided under this program may not be used to pay student salaries; they are paid to the sponsoring institution for the planning, establishing and carrying out of cooperative education programs. The FY '72 budget for this program was $1.7 million; for FY '73, $10 million. Thus, it is expanding rapidly and warrants more detailed study in the future. No evaluations have yet been made of the college level cooperative education program. Both this program and the work-study program are administered by the Bureau of Higher Education.

Vocational Education for the Handicapped

One of the areas of research-related activity in special education for the handicapped to be covered will be the activities funded under the 1968 Vocational Education Amendments and monitored by the Bureau of Education for the Handicapped. A special project aimed at the development of technical assistance manuals for career education for the handicapped will be reviewed also. In the following section, the major research emphases with regard to the vocational rehabilitation of the handicapped will be briefly discussed.

The 1968 Vocational Amendments mandated that at least ten percent of the Federal funds allocated under Part B be set aside for vocational education for the handicapped, and that cooperative arrangements be made for coordinated activities between the State special education agency, the State vocational rehabilitation agency, and other State agencies having responsibilities for the education of the handicapped. These funds (monitored by the Bureau of Education for the Handicapped) may be used for activities designed to enable the handicapped to achieve their greatest vocational potential by providing work-study experiences, special and remedial instruction, prevocational orientation, guidance, counseling, and testing. Training in employability and communication skills may be included. In FY '71, $33 million was spent under this part of the Act to benefit the handicapped, who have been defined as including the mentally retarded, visually impaired, deaf, hard of hearing, speech impaired, orthopedically handicapped, seriously emotionally disturbed, learning disabled, or otherwise health impaired who are unable to benefit from regular educational programs.

As in the case of monies provided under the 1968 Act for Research and Development, Exemplary, and Curriculum Development projects, some of the monies earmarked for the handicapped are being used to support vocational education within the context of career education. "The Bureau of Education for the Handicapped has adopted as one of its major goals that by the year 1977 every handicapped child who leaves school will have had career education training that is relevant to the job market, meaningful to his career aspirations, and realistic to his fullest potential.[17]

A recent publication prepared by the Aid-to-States Branch of the Bureau of Education of the Handicapped described 120 vocational/career education programs that had been selected as representing good practices in vocational education for the handicapped.[18] Among the criteria for selection, along with success of job placement and adequate teacher training, were the special provisions made in the school program for meeting the unique needs of the handicapped. The latter is suggestive of the individualized approach to the instruction of the handicapped which has existed in this field for many years. The special needs of handicapped children, the diversity of their handicaps and the lack of suitable instructional materials led early to the consideration and diagnosis of the needs of each child and the practice of formulating a special counseling/rehabilitative/educational prescription for each student. In current practice, the diagnostic and counseling components are frequently carried out as a team effort with the student, the parents, the special education teacher and the vocational counselor all working together to arrive at a mutually agreeable program of education and job training.

A vocational education component is generally included in the sequence of instruction for special education programs. Life and work adjustment skills are usually taught as part of the overall program. Arrangements for work experience vary considerably. Some schools have facilities for job training on-site; other training may be provided in sheltered workshops or be given by the employer at the actual work situation. Academic credit for work experience depends on local systems and situations. In some cases a young person may spend his entire senior year at the job site and receive full academic credit. The majority of BEH sponsored programs for the handicapped require the inclusion of objectives that are "child-centered, performance-oriented, and stated in measurable terms."

Now in its preliminary stages, is a BEH project to prepare technical manuals which will describe procedures for developing high-quality vocational education programs for the handicapped. The ultimate objective is to stimulate the growth of programs which can effectively prepare handicapped persons for gainful employment, thereby reducing their level of dependency. Three model programs will be selected from programs around the country and the methods, materials, curriculum and population will be described. The basis of model selection will be the success of programs in placing graduates in jobs and placement in improved job levels. The material will be in the form of case studies and will include adaptation techniques for program administrators to employ in order to implement a model program for specific target groups and local conditions.

The three models to be described in the manuals will be selected to represent various degrees of severity of handicapping conditions. Type I will describe vocational preparation for handicapped students functioning within a regular classroom setting; Type II will be designed for classrooms serving only handicapped students but will be directed toward preparing them for employment in an integrated work environment; and Type III will describe vocational education programs for students with severe problems who attend special or residential schools.

This project is using both program and learner objectives to determine what is a successful program. During the screening procedure it will be possible to collect information from 100 or more schools about their inclusion of learner objectives and criterion-based measures of achievement. This project will end in 1974.

An evaluation is being planned for the overall assessment of vocational educational programs for handicapped children that have been funded under the 1968 Amendments.

Vocational Rehabilitation and Work Adjustment

The Social and Rehabilitation Service conducts research focused on people with a broad variety of handicaps including the physically handicapped, the mentally retarded, the mentally ill and the socially or culturally disadvantaged. The Rehabilitation Services Administration in SRS supports research on vocational rehabilitation and employability of handicapped persons, particularly adults. Traditionally, vocational rehabilitation has consisted of three major phases: evaluation, work adjustment, and job placement.

The primary goal of the State/Federal vocational rehabilitation programs is job placement of clients for remunerative employment. Evaluation or diagnosis of client needs, interests and abilities is the first step in this process. The aim of evaluation is to assess and predict vocational potential and behavior through the use of various methods and techniques. One of these methods is the observation of clients in a sheltered workshop. The sheltered workshop sets up a situation for handicapped individuals, where they can receive pay for work done, by means of subcontracting with employers.

Besides providing a setting for evaluation, the sheltered workshop may also give training for work adjustment. Work adjustment is a systematic treatment/training process utilizing individual and group work or work-related activities to (1) assist individuals to understand the meaning, value and demands of work, (2) modify or develop appropriate attitudes, personal characteristics and work behavior, and (3) develop functional capacities. In sum:

> Work adjustment training is not trade training. Rather its goal is to help the individual to develop self-confidence,

> self-control, work tolerance, ability to handle interpersonal relationships, and understanding of the world of work, and a 'work personality' that will enable him to handle the day-to-day demands of a work situation in the labor market.[19]

These qualities sound very much like the work relevant attitudes and coping abilities which we have said are necessary for successful life adjustment as well as job success. In the field of vocational rehabilitation, the provision of training to instill these attitudes and skills is an essential part of the process of rehabilitating the handicapped, and much attention is given to work adjustment both in the practice and study of vocational rehabilitation.[20]

To find job skill training for their clients, vocational rehabilitation counselors frequently seek placement at special training facilities or training is provided by the employer. The reason for this is that traditionally, the Social and Rehabilitation Service has concentrated on the handicapped person sixteen years of age and older, who is employable. Employment has been the primary objective. The Bureau of Education for the Handicapped may deal only with handicapped persons under age twenty-one and has focused more on education and preparation for specific occupations. When arrangements are made for the provision of services for the handicapped in schools, it is agreed ahead of time how agency funds will be used. In the past, the Social and Rehabilitation Service has paid for such things as medical examinations, prosthetics and vocational rehabilitation counselors' salaries, while BEH funds have been used to pay salaries of special education teachers and other expenses directly related to education and job training.

A major contribution to the field of occupational training for the handicapped was made by the Social and Rehabilitation Service with the funding of two large scale demonstration programs in the middle sixties. One of these provided work experience for mentally retarded young people during their last school year and the other established outside occupational training centers for the mentally retarded young adult. They focused mainly on the young adult and used job placement as the measure of successful training. One of the major and long lasting results of this program was that it demonstrated in a concrete manner to teachers in schools and to rehabilitation counselors that the handicapped could be trained and could be placed in jobs in the open labor market. It also helped vocational rehabilitation counselors become directly involved in the school situation and promoted the coordination of rehabilitation and special education services.

The Social and Rehabilitation Service funds a range of rehabilitation research and demonstration projects, many of which study elements bearing on the employment of the handicapped.[21] Each major handicapping condition is the subject of a group of studies. Research is supported also in the areas of evaluation—counseling and workshops-centers. Three of the SRS research and training centers specialize in vocational rehabilitation. A major SRS research effort resulting in the development of a theory of work adjustment and instruments for use in counseling and diagnosis will be described in the following chapter.

NIE Program in Career Education

Vitally important to the future of vocational education and occupational training is the increasing interest in the concept of career education. An important governmentally sponsored research effort in career education is taking place at the National Institute of Education, where it is receiving priority attention. The National Institute of Education was established by the Education Amendments of 1972. By this law, NIE and OE together comprise a new Division of Education within the Department of Health, Education and Welfare. The basic mission of NIE is to conduct educational research, collect and disseminate information about educational research and train educational researchers. Research relating to career education is one of several areas of research to be supported by NIE.

With the implementation of career education, vocational-technical training becomes but one component of a broader view of education as a means of preparing youth for productive and satisfying adult living. Career education aims at the all-round development of the individual, as an effective citizen, as a parent, as one able to enjoy leisure, as a life-long learner, and as one prepared to find and work in an occupation which provides both financial and psychological rewards. As it is conceived, career education may take place in a variety of settings and apply to all age levels, starting in kindergarten and continuing beyond high school to post-secondary and adult education. It may be infused into learning in all subject areas. It is comprehensive.

Education Secretary, Sidney P. Marland, has stated that the adoption of the career education concept would represent a "totally new social form" in education for this country, one which would "affect the lives of all children."[22] The idea was first introduced in a speech by Secretary Marland at a meeting of school principals in January, 1971. It was conceived in response to the President's request for educational reform which would provide an effective program for 1.5 million high school students "who are prepared neither for careers nor for college" under their present schooling. Career education is education that "prepares one to think and to care about social responsibility and personal intellectual fulfillment, and education that equips all learners, at whatever age, with satisfying and rewarding competencies for entering the world of work in the field of their choice." Stature is to be given to vocational training but career education is to be more than job preparation alone. "Equal significance is to be given the vocational student and the college preparatory student and to instruction which erases the separation of the one from the other." In the State of the Union message to Congress in 1972, the President established career education as a White House priority.

We have already talked about the introduction of the career education idea in the schools with the implementation of the Vocational Education Amendments of 1968, and its widespread application at the community college level. The career education task force at NIE, continuing work initiated at the Office of Education, is in the midst of developing and testing four models of career education, planned to serve a broad population in four kinds of settings. When they have been fully tested and validated, that is, when research has shown that they work, these models will be made available for application by schools and other practitioners in any way that they wish. The four models are: (1) the home/community based model, intended primarily to serve out-of-school adults and adolescents; (2) the school-based model, which fuses career education objectives into comprehensive programs for students in schools, from kindergarten to post secondary levels; (3) the employer-based model, which provides an option to teenage students who wish to participate in programs taking place outside the traditional school; and (4) the rural/residential model, planned to provide a range of services, including health, welfare and education, to entire families in a residential community center. The ultimate goal for each of these models is to provide for individual growth in academic, vocational, technical, social, political, aesthetic and personal development areas.

Each model has been established to explore its feasibility and best application through a process of research, development, demonstration and evaluation. In general, since the contracts for developing and implementing these programs have been in effect for less than a year, there is little to report at this time regarding their effectiveness in achieving instructional objectives--programs are still being developed. Operational planning for all four models did not call for the first involvement of students until the Fall of 1972.

With regard to the question of the attention to be given to objectives and measures, NIE, the sponsoring agency, has emphasized the need for (1) "crisp research and development designs, hypotheses, and outcome-oriented objectives," and (2) "complete documentation for chronicling the development of each model."[23] The term "outcome-oriented objectives" suggests that a statement of learner objectives is expected for each model and that the documentation of progress would include evidence of what and how much participating students are learning, based upon criterion-referenced testing. (This is, in fact, a basic principle in the development of the models.) The very nature of career education implies that to be successful, each student must have a program matched to his needs; the strong emphasis on counseling and guidance reaffirms this conviction. The extent of individualization will vary from model to model, with the employer-based model, perhaps, having the greatest potential for allowing the most extensive and thoroughgoing individualization throughout various parts of instruction.

Concentrating on the school-based and employer-based models, we will point out some of the highlights and address the above issues in more detail. The basic aim of the school-based model is to make school experiences more life-relevant and meaningful for the student and to do this by structuring student experiences in school around career education objectives. Since this requires basic changes in public school curricula, contracts were made with six school districts to be directly involved in the development and testing of materials for the Comprehensive Career Education Model (CCEM). Major program goals of this model (and the others) are to increase the career options of students; assist students in making decisions regarding careers; and prepare them to enter suitable employment or go on to the next level of education. In addition, "extensive guidance and counseling activities will help the student develop self-awareness, self-confidence, and mature attitudes, and will match his interests and abilities against potential careers."

As a base for curriculum development, a detailed hierarchy of instructional objectives was established, which covers all grade levels, kindergarten through grade twelve. Eight elements were selected as the components and desired end goals of career education. Interim goals, representing subcategories of the eight basic elements, were defined for each grade level. A further breakdown has produced instructional objectives, for each goal at each grade level, and these state specifically what must be learned to achieve instructional goals. The objectives are stated in behavioral terms so that unbiased measurement of goal achievement is possible. Curriculum units, including teaching materials and teaching techniques, are being developed to implement the program and its objectives. Some of the units are being developed anew by the Center for Vocational and Technical Education (prime contractor) and the local school agencies, and others are being put together by means of a search of already existing materials. The units will be self-contained so that they may be integrated into the instructional stream in a convenient and flexible manner.

As materials are developed they will be subjected to pilot and field testing to locate sections in which learners fail to meet the specifications set by the objectives. These portions will then be revised and retested. In addition, the internal evaluation procedure requires that curriculum units be written with performance objectives and with evaluation activities embedded in the lesson. These evaluation activities are designed to reinforce student learning, and measure the performance objectives and the adequacy of the learning activities. Thus, the school-based model meets the criterion-measures requirement for work experience programs as discussed in Chapter 2. The issue of school accreditation for outside work experience has not been considered in detail for this model.

The more immediate goal is to describe and identify the roles of various groups in the community, including potential employers who may participate in cooperative or work study arrangements.

Finally, the eight elements which are at the heart of this program indicate that personal growth objectives are an integral part of the CCEM.[24] They are:

Career awareness leading to career identity
Self-awareness leading to self identity
Appreciations and attitudes leading to self and social fulfillment
Educational awareness leading to educational identity
Decision making skills leading to career decisions
Economic awareness leading to economic understanding
Skill awareness and beginning competence in employment
Employability skills leading to career placement

The second model, the employer-based model, is being developed and tried out in four widespread geographic areas, each with special local employment characteristics. Programs are located in Berkeley, California; Portland, Oregon; Charlestown, West Virginia; and Philadelphia, Pennsylvania. The major contractors in the beginning stages are the four OE-sponsored educational laboratories serving each of the areas.

The employer-based programs are being developed in conjunction with local employers and are designed to provide real life experiences for eleventh and twelfth grade students (for the present) who choose to participate in learning activities away from the usual school site. One of the keystones is that, to the extent possible, instruction is to be conducted at the work site by employer personnel with the student playing a participatory role in the adult work environment.

An analysis of the reports of each of the employer-based programs indicates they have a number of characteristics in common. Some of these are as follows:

1) An employer development component which is concerned primarily with selecting and negotiating with employers for their participation in the program and in some cases with recruiting and screening students.
2) A central facility, to be a place of instruction in subjects which the employer may not be prepared to present (for example, academic subjects), to be a place of study for students, to be a central meeting place and/or to provide quarters for development and administration staff.
3) A comprehensive instructional program including academic, prevocational, vocational and "preparation for life" skills.
4) An organizational basis where the locus of control is external to the public school system. In Philadelphia, a private, non-profit corporation--the Academy for Career Education--has been established to play an essential role in the program.
5) Student involvement in making decisions about his program, based on information about himself, his goals and his environment. Each student will be allowed to participate in the selection of his own occupation, pattern of work and other learning activities.
6) Plans to develop programs so that credit will be given to enable students to obtain high school diplomas and, in some cases, so that credit for courses will be given by institutions of higher learning.

7) A personalized, diverse set of career exposures and educational experiences for each individual student.

8) The assessment of student progress in terms of his performance on criterion-referenced tests. This requires that learner objectives be stated in measurable, behavioral terms. The measurement of student progress is to be an essential part of the instructional process and of curriculum development and refinement.

The last three common elements indicate that the employer-based career education model is committed to exploring ways of providing school accreditation for work experience, individualizing instruction, and including stated learner objectives and criterion-based tests as integral parts of the instructional program. For a more detailed illustration of how objectives, curriculum content and evaluation methods are used as components to produce validated instructional systems, see Appendix A. The example is taken from the employer-based model located in Philadelphia and operated by Research for Better Schools, Inc.

With the employer-based model, education is shifted "from the existing school system to an adult, employer-based and action learning environment" and gives responsibility to the student himself for what happens to him. Thus, it may be possible to determine the effect of work experience on the development of some of the personal growth skills we have talked about. Does the student become a more capable planner? Is his decision making ability enhanced? Is he better able to work cooperatively with others? Does he develop more responsibility for his actions, with respect to his own goals and the welfare of others? Some of the answers to questions such as these may be found as well as the following information:

> When fully developed, this model will provide comprehensive data on the benefits and limitations of utilizing educational opportunities within economic situations. Analyses will be given of the readiness of employers to involve themselves in comprehensive education programs, the necessity and/or potential of various incentives to employers, the learning potential of specific economic institutions...[25]

The rural-residential model, located in Montana, is aimed specifically at low income families and provides relatively short-term intensive training of from six to eighteen months. Each member of the family learns new skills, either for better jobs, better homemaking, or to continue education. It is the intent that students be able to find employment in the local six-state region after completion of the program, and an economic development services plan will be designed to help make this goal realizable.

The home/community model, which is still in the early stages, is planned to use mass media, especially television, to encourage unemployed and under-employed out-of-school adults to take advantage of existing retraining programs and to assess local career needs and interests. A central information clearinghouse will assist in identifying existing programs and matching individuals with them, and will serve to disseminate information about promising career education approaches. This program does not attempt to teach work attitudes and skills.

While it is still early to evaluate the effectiveness of the four career education models, some observers believe the programs have the potential of dealing with many of the shortcomings of present education in preparing young people for the responsibilities and rewards of adulthood.

Its major contribution may be its potential for initiating educational change, a change which, if and when it occurs, will be based upon viable, validated models of instruction. Plans for the overall evaluation of the model development program are presently being made.

In its preliminary Forward Plan for FY '73 and FY '74, the career education task force described a conceptual framework which would be the base for future R & D activities and the improvement of the model programs.[26] The emphasis for the R & D program "will be the responsiveness of career education to the problems people experience in finding the right jobs and advancing within them." Problems associated with career entry and career progression and the relationship of these with job satisfaction and financial reward will be the focus of study. Because of limited resources, two initial target groups have been selected: youth and midcareer adults, particularly women. "For youth. emphasis will be on employment access and entry; for adults it will be on distribution of employment and career progression." The areas of proposed research fall into three main areas: (1) continuation and management of current models; (2) new activities including projects in basic research, policy analysis, planning and program development, and dissemination; and (3) evaluation.

Job Training for the Disadvantaged

The Department of Labor supports a variety of work experience and job training programs for the disadvantaged, generally called manpower training. (DHEW is involved in the administration of one of these programs as described below.) Four distinctive programs will be reviewed: the Neighborhood Youth Corps (NYC), training authorized by the Manpower Development and Training Act (MDTA), Job Opportunities in the Business Sector (JOBS), and the Job Corps.

Neighborhood Youth Corps

The Neighborhood Youth Corps was established under the Economic Opportunity Act of 1964 and delegated to the Manpower Administration in July, 1969. Since its inception it has been the largest Federal manpower program for disadvantaged youth. NYC operates three kinds of programs. They are the in-school program, which is open to youth still in school and is aimed at keeping potential dropouts in high school until graduation; the summer program similarly planned for disadvantaged youth to encourage them and help them to return to school in the fall; and the out-of-school program, open to youth already out of school with no immediate plans to return, to offer them work experience and/or further training to qualify for permanent jobs.[27]

The overriding objective of the NYC program for in-school disadvantaged youth--to keep them in school--has been attempted largely by providing a supplementary income. Work experience is limited to fifteen hours a week, paid at the legally established minimum wage. Students work frequently in the school itself or may work in nonprofit agencies, such as libraries, hospitals or social service agencies. The summer program also pays wages for summer employment.

The out-of-school program, which is intended for school dropouts, underwent a major redesign in 1970 which put the major focus on increasing employability rather than on income maintenance. Known as NYC-2, the program provides three planned kinds of learning experiences, each with a set of specified objectives. The options or goals of the NYC-2 Education program for each student are:

1) to have him return to regular school attendance,
2) to enable him to secure a General Education Development (GED) certificate,
3) to have him enroll in a community college or technical school,
4) to enable him to qualify for an apprenticeship program,
5) to enable him to qualify for a license or skilled occupation, and/or
6) to have him acquire basic academic skills necessary to hold a job.

The goals of Skill Training for the student are:

1) to enable him to obtain a diploma from a vocational school,
2) to enable him to receive a recognized, job-useful certificate for completion of a skill course,
3) to qualify him for license in a trade,
4) to give him the ability to operate a particular machine or carry out a procedure,
5) to give him the ability to perform a particular kind of skilled job, and/or
6) to have him acquire basic tool skills and confidence that will make it easier for him to learn other more advanced skills later.

Work Experience, which is that part of a program which takes place at an employer site, has the following goals:

1) to provide opportunities which may lead to more advanced steps,
2) to provide possible future employment at the worksite,

3) to provide a means of rounding out an enrollee's preparation for work, and/or

4) to give the student an understanding of the disciplines of working.

Paid work experience is limited in order to put the emphasis on education and skill training, so that marketable skills are learned.

(The out-of-school programs are also expected to include supportive services of various kinds. Counseling, health services and remedial education are planned as integral parts of the program, as are placement and follow-up services.)

Thus, the out-of-school program has begun to specify learner objectives for the operation and evaluation of manpower training. (Most of the Work Experience objectives however, are still at too general a level to be measured.) Furthermore, the idea of providing instruction based on the individual needs of enrollees has found application through the use of an Employability Plan developed for each trainee. The Employability Plan is an outline prepared by the enrollee and his counselor of the enrollee's needs, objectives and means of achieving objectives. These are broken into segments so that the achievement of each objective can be determined and the student's progress assessed periodically in terms of his objectives. For the in-school program, also, it was planned that "individual needs would be considered in planning the content of each youth's training and experience." School credit for both in-school and out-of-school participation may be earned for work training, according to local school practices.

While discussions of the effects of NYC programs frequently suggest that they have had beneficial effects on the self-concept and other attitudes of enrollees, changes in work-relevant attitudes were not stated as specific objectives in the materials reviewed. However, work has been conducted by Walther on a self-report inventory for measuring work-relevant attitudes with NYC enrollees.[28] The background for this effort was provided by his research to develop the Job Analysis and Interest Measurement. Tests with the JAIM have shown that certain self-reported beliefs are associated with the occupation a person chooses, his satisfaction with the occupation and the quality of his work performance. These beliefs relate to the individual's view of himself and the world, his activity preferences, his values and his behavioral styles.[29] Research such as this--to develop measures for assessing changes in attitudes and beliefs that occur as a result of education and work experience--needs to be carried further.

Manpower Development and Occupational Training

The Neighborhood Youth Corps enrollees may be in the sixteen to nineteen year old age range. Older youths (eighteen to twenty-one years old) may be directed or transferred to other manpower programs of the Department of Labor, such as the skill training or apprenticeship programs funded under the Manpower Development and Training Act.

The Manpower Development and Training Act (MDTA) passed by Congress in 1962, funds training projects to assist people who are (1) unemployed (including members of farm families with less than $1200 annual net income); (2) working below their skill capacities; (3) inmates of correctional institutions; (4) working less than full time; (5) able to fill jobs in shortage occupations with part time education and training; and (5) persons whose skills have become obsolete. In practice, anyone sixteen years of age and older is eligible if such training is necessary for him to get appropriate full time employment. Since 1966, the programs have been directed toward helping the disadvantaged, with the added requirements that sixty-five percent of MDTA enrollees must be disadvantaged.

MDTA provides for two main kinds of occupational training--institutional and on-the-job training. Institutional training consists of occupational training and classroom instruction in remedial education, as well as improvements in communication skills and work attitudes. On-the-job training emphasizes training at the job site by fellow workers or special instructors, with trainees being hired as employees at entry levels; it is sometimes coupled with basic education instruction.

Trainees in both types of programs may receive continuing counseling, testing and guidance, individual placement and follow-up services, and medical services. Persons may receive training allowances while they are undergoing training.

High schools, trade schools, vocational schools, junior and community colleges, skill centers, university campuses, and some private organizations are places which may conduct institutional training, which is arranged by contracts between DHEW and state agencies. (DHEW and DOL work together in setting up MDTA programs.) The Federal government pays ninety percent of the cost of training and the state pays ten percent "in cash or kind." The cost of all trainee allowances is paid by the Department of Labor which grants funds to states for training.

In on-the-job training, employers or other sponsors provide training facilities and pay the trainee wages for the time spent in the production of goods and services. Under an agreement with the Department of Labor, companies, trade associations, labor organizations, industrial and community groups, or state and local governments sponsor on-the-job projects.

Little detail of concern to this report is available on MDTA occupational training and the JOBS program (below). These two programs, plus NYC and Job Corps, were the subject of a report sponsored by OEO, Longitudinal Study of Four Manpower Training Programs, which is described in the following chapter.[30]

Job Opportunities in the Business Sector

The JOBS program was created to ease the problem of hard-core unemployment in major urban areas. It is directed toward employing and training disadvantaged poor persons who are not suitably employed and are either school dropouts under twenty-two years of age, are forty-five years of age or over, are handicapped, or are subject to special obstacles to employment.

The fundamental principle of the JOBS program--"hire first, train later"--continues to set JOBS apart from most other manpower programs. All private companies are eligible for a JOBS contract which requires the provision of two basic training components: (1) on-the-job training and (2) special counseling. In addition, other supportive services may be provided, including orientation to company work environments, job-related remedial education, training of supervisors or other employees who work with the trainees, financial aid to pay for: transportation and/or child care for short periods of time, direct transportation to and from work, and medical and/or dental care. It is also required that trainees be paid the same starting salary as other workers for the occupation in which they are trained, and, further, that they receive the same benefits as other employees.

The overall responsibility for negotiating, administering, and controlling JOBS contracts and training is invested in the Department of Labor (DOL). The National Alliance of Businessmen (NAB), composed mainly of businessmen on loan from their companies and government people on loan from the DOL, serves as liaison between the government and the private sector, locating companies and identifying jobs that will accommodate JOBS enrollees. In addition, the State Employment Services (SES) and the Concentrated Employment Programs (CEP) are given the tasks of recruiting enrollees for the JOBS program and certifying that they meet the disadvantaged criteria and any other entry requirements.

The JOBS program and the MDTA projects are of interest to this report, primarily, in that they enlist the participation of businesses, unions, trade schools and/or other community groups which are involved in providing vocational training and work experience for young people entering the job market. More information about these programs will become available as the data gathered in the OEO-sponsored longitudinal study are analyzed.[31]

Job Corps

Job Corps was established in 1964 by the Economic Opportunity Act. In 1969, responsibility for Job Corps was delegated from OEO to the Department of Labor and emphasis was shifted from conservation work to industrial occupations and job placement. All Job Corps centers are to direct their training efforts toward enhancing those vocational skills which fit the needs of the target population, environment, and geographic area being served. In other words, they are meant to be a viable and contributing force in the community.

Job Corps is a predominantly residential training program designed to develop a person's employability, responsibility and productivity through training that is conducted at centers removed from the participant's previous environment. In particular, it is aimed at reaching persons who may profit from a change in their physical environment and need individual counseling and help in order to develop the talents, self-confidence, and motivation necessary to help improve their economic status.

The program concentrates on providing comprehensive training geared toward basic education, skill training, and useful work experience. The basic education component includes reading, mathematics, English, consumer education, and work orientation. The vocational component prepares enrollees for specific occupations currently in demand, while the work experience component provides them with an opportunity for actual training on the job. Emphasis is also placed on the personal and cultural development of the trainees. Support services offered under the Job Corps program include the provision of clothing, living, and readjustment allowances, room and board, medical and dental care, and job placement.

Young men and women, aged sixteen to twenty-one, who are permanent residents of the United States, from low-income families, and lack education and skills to hold meaningful employment or successfully participate in regular school work are eligible for Job Corps. In addition, enrollees must be living in a disruptive environment, be free of major medical or behavior problems and have the basic capabilities and aspirations to complete the program.

Not all of Job Corps centers are alike; there are essentially four types: all male civilian conservation centers, men's and women's urban centers, residential manpower centers, and residential service centers. The civilian conservation centers (CCC), located in rural areas, are administered by the Department of Agriculture or Interior and have enrollments of between 150 and 250. In previous years these centers stressed conservation work and remedial education; more recently this emphasis has shifted toward more vocational skill training, thus lessening the difference between this and other center types. The urban centers are administered by private firms, universities, and nonprofit organizations. Those for men (MUC) have enrollments of 1200 to 3000 while the women's urban centers (WUC) are somewhat smaller, with 350 to 700 women each.

In 1970, two new kinds of centers were opened--residential manpower centers (RMC) and residential support centers (RSC). The typical RMC is located near an urban area and enrolls 100 to 350 residential and nonresidential youths from the local population; in addition, four of the RMCs are coeducational. The RSCs, with approximately thirty youths each, provide offsite basic education and training.

Success for the Job Corps program is gauged by the extent to which participants become more employable, increase their earning capacity, satisfy Armed Services requirements, raise their basic educational levels, and are more capable of coping with a complex society. These are the general program goals which can be assessed in part by the trainee's post-program performance.

The primary measurable noneconomic gains associated with Job Corps concern improvement in reading and math scores. With regard to other aspects of training, a study of Federal youth programs states that "gains in self-image, improved work habits, and homemaking skills, although important, are extremely difficult to measure. This does not negate their importance; it only means that we cannot quantify or capture all benefits associated with the program."[32] Hence, it is assumed that these personal growth skills have not been measured to any great extent.

Job Corps program policy requires the statement of specific objectives for the skill training area by each Job Corps center. While standards have not been set for social skill training, a statement of overall behavioral objectives has been developed for this area. In the basic education courses, reading materials include programmed instruction which allows each person to proceed at his own pace. Provision of individualized instruction is emphasized as a goal in Job Corps training. An Instructional Systems Development manual and guidelines on how to write behavioral objectives for vocational programs have been prepared to assist centers in developing and validating materials for individualized instruction. Students receive high school equivalency credits for a variety of Job Corps courses, with school systems in some cases operating one or more components of Job Corps center programs.

Individual centers are encouraged to undertake research pertaining to various aspects of their local program, including pre and post-program phases of the enrollees' experience. Overall impact research is directed from the Federal level. More information on Job Corps programs and services overall will be available with the preparation of reports based on the Longitudinal Evaluation Study of Four Manpower Training Programs, mentioned above and described in the following chapter.

Experiential Learning in Volunteer Work Programs

In 1971, a new Federal agency was created to coordinate domestic and foreign volunteer programs that were formerly administered by different departments and agencies of the Federal government. This agency, called ACTION, administers seven domestic programs and the Peace Corps. Three of the domestic programs, along with the Peace Corps, concern young people specifically and will be described briefly here--they are Volunteers in Service to America (VISTA), University Year for ACTION (UYA), and National Students Volunteer Program (NSVP).

VISTA, UYA and NSVP

VISTA and UYA are both based on the common assumption that volunteers living and working with the poor on a full time basis can assist local people to solve some of their social problems associated with poverty. The volunteer's role in these programs is to assist in the utilization of community resources and increase the capacity of the target community to solve its own problems. VISTA and UYA volunteers do this by working with local sponsoring organizations and agencies in areas including teaching-tutoring, health services, social services, economic development, community planning, and legal and welfare assistance. The age range for participating volunteers is eighteen years and over. Volunteers receive about $2000 a year as pay from the Federal government. The major difference between VISTA and UYA is that UYA participants are college students and the program is sponsored by a university which allows students to spend one full year living and working in a poor community while earning credit towards a college degree.

VISTA was authorized under Title VIII of the Economic Opportunity Act of 1964 (UYA was created under the same authority). VISTA participants agree to lend their services for one year after the training period to supplement community efforts to eliminate poverty. About fifty percent re-enroll for another year or extend their period of service. The training program consists of orientation and skill training and is delivered in two phases: preservice and inservice training. Conducted during the preservice phase, orientation generally covers content areas such as organizational and administrative matters, the volunteer role, communication skills, programming techniques, and the dimensions of poverty. Orientation to a particular project is usually conducted on the actual project site. It emphasizes the development of an understanding of the specific job to be performed, within the context of the community in which the volunteer is to live and work. Skill training is begun during the preservice phase and continues throughout the volunteer's term of service. The sponsoring agency is expected to participate in the planning and delivery of both the orientation and skill training. Inservice training is provided by ACTION and the program sponsor. The purpose of inservice training is to strengthen the capability of each volunteer to work in a particular project. The sponsoring organization is expected to provide inservice career development assistance through job counseling which will focus on the productive utilization of the skills and experience of the volunteer. The length of inservice training depends upon the needs of the volunteer and his work situation.

UYA was established by ACTION in 1971 to meet two major goals: to help alleviate poverty through the application of a university's resources to the problems of the poor, and to assist universities in developing experience-based learning programs. These objectives are being accomplished by four University Year for ACTION "partners": ACTION which provides technical assistance, overall direction and funds for student allowances and administrative costs; universities which grant academic credit for the student volunteer's work and commit their physical and academic resources to poor communities; students who work for one year as full time volunteers; and the local organizations which define jobs and supervise the student's work. UYA is planned as an alliance between the Federal government, universities, students and low-income people.

The UYA program requires that volunteers combine full time community service and related academic study in an integrated one-year program. By and large, the means for granting credit and the academic requirements are established by the participating university. Arrangements for relating the work experience to a student's course of study vary, depending on specific circumstances. A common practice is to hold regular seminars which all volunteers attend. In addition, readings, papers and a daily journal may supplement the seminars and the work experience.

Formal work training is provided and lasts two to four weeks. It is divided between classroom training sessions and visits to the sites to learn skills needed on the job. Students learn the basics in preparation for their field work: the purposes of University Year for ACTION, the problems and resources of the community where they will work, skill training, and how to mobilize additional help. Volunteers are trained by faculty, community leaders and trainers experienced with VISTA and Peace Corps. No two training programs are identical, since each must reflect the needs of the jobs to be accomplished and the needs of the poor community. While the range of lectures, practical experience and cross-cultural orientation varies, the training period gives each volunteer a look at the problems of an prospects for his new community and an understanding of what he can realistically expect to accomplish.

(NSVP provides technical assistance to schools and communities to assist them in setting up and running high school and college volunteer programs. Some 400,000 college students have been placed in volunteer service with the help of the information and assistance provided from the Federal level, while the high school volunteer movement continues to grow. NSVP does not provide monies for program operation--it is strictly a technical assistance and information source.)

Both UYA and VISTA operate according to a set of broad program objectives, which are linked with local needs on a project by project basis. The emphasis is on effective planning and development at the local project level in order to meet local project objectives.

VISTA's planned impact programming lays the groundwork for unbiased evaluation by requiring that local projects state objectives regarding academic learning and on-the-job training in measurable, quantifiable terms. Projects vary to the extent to which they presently meet this requirement, but program policy does call for the statement of measurable objectives. Local project evaluation is based on the achievement of goals specified for a particular time period.

On-the-job training in VISTA and UYA occurs in a wide variety of community sponsor situations where the volunteer participates in setting his own task and objectives. This means that training must be on an individual basis in accordance both with the volunteer's needs and the agency's activities. And for UYA, academic learning is individualized in that the learning objectives are meant to complement the job assignment of each individual and instruction is on an informal and unstructured basis.

Evaluation reports on the overall program impact of UYA and VISTA on local communities, are presently being prepared. In addition, the first large-scale cost benefit study of VISTA was being planned at the time of writing.

Many of the participants in volunteer programs have career and self-development objectives. In a national, program-wide evaluation of UYA, over seventy percent of student volunteers said their primary reasons for joining UYA was to further a career (twenty percent) or broaden their experience (fifty-three percent).[33] In an analysis of career attitudes, forty-four percent of the UYA respondents stated constant self-development and improvement as the most important reason for choosing a career. Since over half the participants had not chosen a definite career, the responses seem to indicate career search as part of the reason for serving as a volunteer. Also, fifty-four percent stated, as a reason for career selection, that of being helpful to others. That volunteer work is a useful job orientation and training ground is also suggested by the fact that half the former volunteers who participated in programs now under ACTION are employed in areas closely related to those they served in as volunteers, e.g., education, health services, manpower training.

While a certain amount of altruism and service to others may be assumed on the part of participants in volunteer poverty programs, there is no statement of these as behavioral objectives to be achieved through program participation. With regard to the measurement of the acquisition of humanistic qualities, this is not done at all in VISTA and UYA. In the Peace Corps a testing and screening device is used in the "pre-invitational staging" phase to determine the match between the applicant's personality and the situations he would encounter as a Peace Corps volunteer. Reports on these measures are generally prepared for in-house use only.

Peace Corps

The Peace Corps, established in 1961, was incorporated into ACTION on July 1, 1971. Peace Corps offers people an opportunity to "do something" about the problems of the disadvantaged around the world. Basically, the Peace Corps has three objectives: (1) to help developing nations meet their needs for trained manpower; (2) to promote better understanding of the American people among the nations served; and (3) to promote a better understanding of other people among Americans.

The volunteers have a wide range of qualifications and expertise obtained through prior academic and/or work experience, in addition to the training received in the Peace Corps orientation program. Most volunteers have at least a bachelor's degree and many have some type of graduate school certification. Peace Corps sends to other countries experts in the fields of agriculture, business, medicine, urban planning and education.

Participation in a Peace Corps training program is the first step in a volunteer's two year experience. Several universities and private organizations conduct training programs in the United States, and an increasing number of volunteers, more than half, are now being trained in the countries of their assignments. All volunteers must be trained for specific jobs they are to do for the sponsor agency or host country. A training program lasts about twelve weeks and has two primary purposes: to help adapt skills and experiences of enrollees to specific jobs; and to give necessary insight into the host country's history, culture, and political and social systems. In addition, trainees receive at least 300 hours of language instruction.

The Peace Corps, while providing work experience and opportunity for the affective growth of its members, consists largely of relatively mature persons already trained in a job specialty or profession. Many of them will have made a successful transition from youth to adulthood. For this reason, Peace Corps will not be described in detail here. Research on Peace Corps enrollees could be perhaps a rich field for the discovery of the kind of experiences that produce effective, highly motivated and other-oriented adults.[34]

Job and Career Training in the Military

The Department of Defense annually provides initial and advanced training to over one-half million men and women throughout the armed services. The total number of career or occupational fields in which training is provided is 237, with many of these being related to or comparable with civilian jobs. The armed forces have long been leaders in developing and implementing modern training techniques. Courses are practical and stress hands-on instruction rather than theory. Self-paced instruction and performance testing are essential parts of the instructional procedure in many courses. After graduating from skill courses, the trainee receives additional training on the job and continues developing his skills by actual work experience.

The term "performance testing" implies that testing is based on measurable objectives; self-paced instruction is an inherent characteristic of individualized learning. In the latter area and in the use of measurable objectives to improve training, the military has been active for many years. Valuable knowledge pertaining to experiential learning may also be available from the background of the military in job skill training.

In addition to specific occupations, in which enlisted men are trained and then employed as specialists, the armed forces support or participate in a variety of advanced educational programs. The military services have always relied heavily on use of off-duty time for educational pursuits. Full time on-duty programs are also available. Among the various programs are cooperative and work-study activities at the college level. In these programs, the student alternates work experience with academic learning and, upon graduation from college, qualifies to be retained in a career position in the sponsoring branch of the armed forces.

The military setting provides one of the larger environments within which career education takes place. The interest of the armed forces in relating job training in the military to career education programs now appearing in the schools is indicated by several research studies recently completed, underway or planned. Brief descriptions of the research will enlarge the understanding of the career education concept in the military. One study, sponsored by the Office of Naval Research, examined the potential for integrating information about Navy careers into the career education programs of the public schools. Such integration is intended to result in the presentation of Navy employment information in the same educational context in which employment information on comparable careers in the civilian environment is presented. Thus, the purpose would be to introduce students to the idea of the military as one possible employer providing life-long career education opportunities. Other studies sponsored by DOD include one to develop materials for high school counselors showing the relationship between military job opportunities and the career clusters of the new OE career education program. Another study will develop, for application in the All Volunteer Force, career education models for military occupations and DOD guidelines for career education development that are consonant with OE and NIE career education concepts. Research on a skill transferability information system will be helpful in solving the problem of providing accreditation for job training and work experience in the military. A content and format acceptable to unions, employers and educational institutions is being developed. To mention a final study of interest to this report, the Office of Naval Research, in 1960, sponsored a conference which resulted in the publishing of a comprehensive review of training research, and its implications for future research and for training and education. The topics covered include instructional objectives, individual differences, skill training, proficiency measurement and the coordination of research and practice.[35]

Chapter 4

REVIEW OF FEDERAL RESEARCH RELATED TO WORK EXPERIENCE, BY KIND OF RESEARCH

In Chapter 3, research was described within the context of the various types of work experience and education programs authorized by legislation to be sponsored by different Federal agencies. In this chapter, studies are organized according to the kinds of research found to be most frequently funded by agencies at this time in the area of work experience. Three kinds of Federally supported research related to our subject will be covered. They are (1) overall program evaluations (summative evaluations), (2) development of vocational guidance instruments, and (3) large-scale data collections and surveys. While the program evaluations are necessarily related to specific programs, at least some of the findings will have general application. The same is true of the counseling instruments and the surveys. The latter, particularly, will have broad scale application across programs. (The research described in Chapter 3 falls primarily in the area of curriculum and model development, as it is carried out under different Federal programs.)

As we have pointed out, many of the programs described above are less than three years old, having been created as a result of recent increased interest in finding ways of solving the problems of young people and legislation authorizing the necessary funding to provide work experience. For these new programs, evaluations describing what works and how well, generally, are in the planning or interim stages, and for a number of programs, the first reports are expected to be completed within a period of time ranging from a few weeks or months to two or more years from now. This is true of the Exemplary vocational education program, the Career Education models program, the College Work Study program, and the WECEP program. Even for some of the older programs, longitudinal evaluation studies are still under way (e.g., the Neighborhood Youth Corps), or up-to-date reports are expected to be available momentarily (for UYA and VISTA, for example). Two major national studies are expected to be released momentarily. They are the report of the National Panel on High Schools and Adolescent Education and the report of the Panel on Youth of the President's Science Advisory Committee. (The two latter reports are reviewed briefly in the following chapter.)

In the test assessment area, two notable studies relating to the development of vocational counseling instruments will be described.

In addition to the curriculum and model development activities, summative evaluations, and counseling studies, research supported by the Federal agencies includes the study of population characteristics and their interrelationship with school and work experience. These are large-scale longitudinal surveys not tied to any specific work training program. The reports of such studies to be covered here include Career Thresholds, Years of Decision, Project Talent, and Youth in Transition. All the studies in this category and in the counseling area have published interim or final reports--in contrast to most other research discussed--and when relevant, the major findings are reviewed.

Program Evaluations

We will begin our review of selected research with descriptions of the summative evaluations, starting with An Assessment of School Supervised

Work Education Programs. This is an ongoing study being funded by the Office of Education to evaluate a number of the kinds of work experience programs described above. Included in the evaluation are cooperative education and work-study programs funded under the 1968 Vocational Amendments and other such programs, some Neighborhood Youth Corps in-school projects, and projects operated under WECEP (Work Experience and Career Exploration Program). One Job Corps program is included. For each project included, the work experience arrangements made between schools and employers must be school supervised or administered. Both secondary and two-year postsecondary programs providing work experience are covered, but four year programs leading to a Bachelor's degree are not.

The objectives of the study are as follows:

1) to develop a set of case studies which will document the growth, training strategies, and significant characteristics of fifty different work education programs;
2) to look for commonalities in features and characteristics among the more successful of the fifty programs that can lead to recommendations pertaining to the structure of future work education programs;
3) to collect data on student participation in the fifty programs, and on non-participating students at the same schools, which can be used to link desirable program outputs to student characteristics and goals; and
4) to lay the groundwork for a follow-up study, which would compare the student data gathered during this study with follow-up information obtained a year later by interviewing the same

students to determine what changes have occurred in their earnings, their academic and vocational careers, and their personal expectations.

It is anticipated that the results of the study will be of use to decision makers (on Federal and state levels) as a basis for recommendations for school change, future budgeting, and legislative initiatives (e.g., for retargeting funds or facilitating greater industry involvement). The study will also assist in the planning of career education programs by providing information about work experience components and means of increasing employer participation in work education programs.

Information necessary to meet the evaluation's objectives is being obtained by a series of site visits and interviews with school personnel, students, employers and unions that are associated with the fifty programs selected for study. One of the school questionnaires asks for information about the inclusion of measurable learner objectives and methods of measuring student progress. Another asks whether school credit is given for work experience. These questionnaires are presently undergoing analysis. When the results are available, they will give detailed information about some of the issues of interest to this report.

As a result of the preliminary surveys, a Directory of Self-Described Work Education Programs is being prepared. Included are descriptions providing basic information on 555 school supervised work education programs in every state across the country. Program objectives, kind of employer setting, giving of academic credit for work, number of placements, union participation, kind of occupations involved--these are some of the areas to be covered in the Program Directory. It is expected to be available before the end of FY '73, but the time is not yet specified.

Neighborhood Youth Corps

A relatively large amount of research has been generated in connection with the Neighborhood Youth Corps. The developing of instruments for vocational counseling purposes is one important facet of this research and is discussed below. Another area aims at the study of various program elements with the objective of solving some of the problems that became evident as the NYC program matured. An important example of this research is a longitudinal study of out-of-school NYC-2 programs in four cities.[36] An essential element of this study is the baseline data collected during previous studies on earlier versions of the program. As a result of research conducted on earlier versions, the NYC programs have been redesigned, becoming known as NYC-2 programs.

This longitudinal study which began in 1970, is designed in four phases. The first phase involved the selection of research sites, and the development of information-collection and feedback procedures to enhance the value of this research to the programs during the course of the study. The second phase, which ended in July, 1971, involved the selection of subjects for experimental study groups in the four sites. The report on this phase includes the description of the programs and sites and of the characteristics of the enrollee subjects. Phase 3 will be concluded when follow-up interviews have been conducted with each subject, sixty days after he leaves the program. An interim report on this phase will be available in the Summer of 1973. This report will contain information on the NYC experience of study subjects, the post-NYC experience of terminated subjects, and the operation of program components. The second part of Phase 3, consisting of follow-up interviews with the whole sample as a unit and comparison with a control group, will be completed in February of 1974. Phase 4 will consist of guideline and model development based on the experience and analyses of the first three phases. One outcome of Phase 4 might be the development of a new set of program standards. This study is included in this section rather than in that on large-scale data collection because the evaluation data collected is to be used as the foundation for NYC program improvement and model development. This is not to say the information will not be useful to other work experience programs, but it is based specifically on NYC experience.

The research was designed to investigate three major questions:

1) Compared to NYC-1, does NYC-2 result in better post-NYC enrollee adjustment to the world of work?
2) What are the contributions of specific program changes in NYC-2 to changed program outcomes?
3) How might the NYC-2 program be improved with respect to the assistance provided to its enrollees?

Several propositions that can provide hypotheses to be tested, emerged from earlier research on NYC-1.[37] Some of these, related to the above questions, will be tested in the longitudinal study of NYC-2. They are as follows:

1) The employability of enrollees is enhanced primarily through vocationally relevant NYC experience (including job development, work assignments and skill training).
2) Enrollees can be categorized according to their needs, and differential work and learning strategies can be developed for groups with similar needs.

3) The educational needs of enrollees require active and innovative interventions.
4) The continuation of counseling responsibility into the post-NYC period can improve the employment adjustment of former enrollees.
5) Combinations of multiple assessment, multiple enrollments, and maintained work standards may give the best results for some enrollees (providing more than one chance for the enrollee).
6) NYC enrollment policy that concentrates on "hard core" youth tends to limit program effectiveness (reinforces the idea of failure for this group because of their relatively poor performances).
7) Maximum effectiveness of program operations is achieved through a balance of program components (including job development, counseling, instruction, training and placement).

More detail on these possible research questions appears in Appendix B. Information now available on enrollee characteristics may be useful, but the analyses to be done following Phase 3 and bearing on these questions will not be completed for another year.

Work Experience and Career Exploration Program

WECEP is a recently terminated three-year study of school-supervised work experience programs conducted by the Employment Standards Administration of DOL, in cooperation with the education departments of several states. Funding was provided by DHEW and the states involved in the project. (WECEP is described in this section because an evaluative report will be available in a few weeks, containing information of interest to all those studying work experience affects.)

As the concept and practice of career education expands, it is anticipated that modifications will need to be made in existing child labor standards. WECEP was an experimental program planned to provide factual data for formulating adequate new labor standards which will protect the health and well-being of youngsters and will encourage the use of adequately supervised work experience to improve students' education. The WECEP experiment, which focused on fourteen and fifteen year old dropout-prone students, was made possible by a 1969 amendment to the Child Labor Regulations, relating to the employment of minors. This amendment is due to expire the end of August, 1973. The purpose of the study was to test the academic effectiveness of school supervised work experience programs as well as to provide information about the modification of the Child Labor Regulations. The study had four specific objectives:

1. Determine effect on student's educational performance. These factors, to be measured objectively, included:
    a. Academic level of achievement
    b. Attendance record
    c. Drop out incidence
2. Determine effect on student's behavior and attitudes. These factors, to be determined by subjective measurements, included:
    a. Career goals
    b. Attitude toward work and employer
    c. Attitude toward school and teacher
    d. Attitude toward fellow classmates
    e. Attitude toward home
    f. Self concept
    g. Civic responsibility
    h. Employability readiness
    i. Work performance
3. Determine effect on student's social, extra-curricular, and school involvement.

4. Determine previously undiagnosed disabilities of students.

An official description of the experimental programs provides information about individualization and accreditation. (The statement and measurement of instructional objectives—as defined in this report—depended on the practice of the participating schools.)

> The programs provided for a course of study and actual job experience. School classes included academic courses stipulated by State requirements for graduation as well as instruction in job-related and employability skill development with individualized or remedial instruction where needed. Credits toward graduation were awarded for both in-school related instruction and on-the-job work experience in accordance with the standards of the respective participating States. A part of the instruction was aimed toward development of safety concepts related to school, community, and employment; and toward development of desirable attitudes toward work.
>
> A minimum of two class periods were devoted to job-related and employability skill instruction and a minimum of two periods were devoted to regular required general subjects or other elective subjects meeting State standards. A maximum of four hours were allowed at the work station while the combined school-work day did not exceed eight hours. Work experience was received on jobs permitted or approved under Federal or State laws and was under the supervision of the teacher-coordinator and employer. The program was constructed so as to provide students with an opportunity to advance academically as well as to grant them exposure to a wide range of career possibilities. Flexibility in the curriculum provided for entrances and exits. An enrollee will be able to pursue higher academic training; will be able to go into a vocational skill program; or will be better equipped for the world of work. The program's aim was toward development of vocational skill attitudes rather than training in a particular vocation.[38]

The final evaluative report on this three-year experimental project is expected to be available in Summer, 1973. Some of the preliminary analyses indicated that students in the WECEP program were absent from school fewer days than students in control groups; and grades for WECEP students tended to improve in contrast to the grades of control group students. It is expected that information on dropout rates, attitudinal change and possible deleterious effects of the program will be covered in the final report.

Some of the research questions to be considered in the final report include the following:

1) To what extent does enrollment in the WECEP program reduce the dropout rate and increase school attendance?
2) To what extent is there a positive relation between length of enrollment in WECEP and the reduction in the probability of dropping out and the increase in school attendance; what is the size of these effects?
3) In what way does the number of hours worked per week affect scholastic performance?
4) What is the relation between enrollment in WECEP and improvement in labor market and scholastic attitudes and values?
5) What is the impact of the relaxation of Child Labor Regulation Number 3, with respect to hours worked and restricted occupations, on the safety and health of WECEP participants?
6) To what extent does career exploration occur within the program?
7) To what extent does the program tend to reduce delinquency or other behavioral problems?
8) What is the possible displacement effect on adults if WECEP were to be expanded rapidly and in large amounts?
9) To what extent is there a difference in program outputs between WECEP experience in public versus private employment; to what extent is there any difference in program impact as a function of different occupations?

10) What are the problems which potentially limit the effectiveness of the WECEP program; for instance, would a reduction in the minimum wage rate for teenage youth increase the attractiveness of the program to the WECEP students?

Thus, the research conducted in relation with the WECEP program included significant questions on the effects of the employment of adolescents--in addition to the main question of what changes, if any, should be made in the Child Labor Regulations. The report of this study, when it becomes available, will be of special interest.

Longitudinal Evaluation Study of Four Manpower Training Programs

In 1969, the Office of Economic Opportunity and the Department of Labor jointly began a national study of the urban operations of four major manpower training programs: the Job Corps; the Neighborhood Youth Corps (out-of-school component); Manpower Development and Training Act (institutional training); and Job Opportunities in the Business Sector (contract component).[39] These programs exist to provide remedial training to the disadvantaged poor. Prior to the initiation of this study, no organized effort had been attempted to gather common data on which the programs could be compared, although both the Department of Labor and the Office of Economic Opportunity had conducted many individual studies of the programs within their respective responsibilities.

A principal goal of the study was to evaluate how effective each of the four programs is as an antipoverty device. The ultimate objective of this research was to permit a comparison of the four programs--using common assumptions, methodology, and data gathered in an identical manner for all programs--in terms of their costs to the government and benefits to the trainees. The study was also oriented towards determining those characteristics of the client population that should be given special attention by program managers in the design of remedial training.

The data collection and survey phase of the study which was concluded in 1972, includes information in four major areas: cost and enrollee data, program training and services data, affecting environmental data, and program narrative descriptions. Information collected in the data areas has been stored on special and master data files and control tapes.

The purpose of the interviews and surveys was to collect cost data which would assist in the cost-benefit analyses of the four training programs included in the study. The cost data, along with the supplementing enrollee and program data, can be used in analyzing program/project costs from various points of view--those of society as a whole, the individual trainee himself, the Federal government, and sponsoring agencies. "It will also provide input for deriving average and marginal costs either by project or by program, and for drawing inter-program/project comparisons."[40]

In addition to the general analyses and overview of the data that were prepared by the contractor, a series of papers will be issued describing in detail the findings as they relate to a variety of pertinent questions. The first presents, for urban Job Corps enrollees, their reasons for joining the program, demographic characteristics and handicaps to employment, and their job histories prior to program entry.[41]

Additional reports will (1) cover length of stay in programs as affected by a variety of demographic, economic and program factors and the benefits resulting from varying duration in the program, (2) provide detailed comparisons of characteristics of enrollees in the four programs, (3) study the economic benefits of the program to enrollees in terms of earnings, and (4) analyze labor market stability. Since the major purpose of the study was to determine the effectiveness of each of four programs as an antipoverty device, assessments of factors of greatest interest to this report are not likely to be of major concern in the planned series of analyses and reports. Attitude scales were included in the questionnaires and while they may provide data on the effect of program participation on personal development, their utility has not yet been fully investigated.

Volunteer Program Evaluations

Most of the research conducted in relation to the volunteer work programs described is of an evaluative nature, with research efforts, up until now, focused on studying the experiences, characteristics and reactions of enrollees. An example of a recent evaluation is an analysis of the responses to a questionnaire by former Peace Corps and VISTA volunteers.[42] This consisted of a qualifications profile focused on skills and background, a goals and interest profile, and a profile of present academic, employment, and volunteer activities. Such studies can be useful in providing information not only on the kinds of people interested in volunteer work, but also on the experiences that help to produce other-directed, effective, and mature individuals (as they may be found in the Peace Corps).

Two evaluations the Peace Corps is presently conducting include one on the intern program and one for the further refinement of the evaluative instrument used in the preliminary screening phase of the program. This instrument attempts to measure enrollee traits and personality characteristics to make sure there is a suitable match with the requirements of Peace Corps assignments. The present effort is aimed at eliminating overselectivity. This does not mean requirements are less stringent, but that greater effort will be made to make sure qualified people are not eliminated during the screening phase.

A recent UYA (University Year for Action) evaluation analyzed various elements of UYA projects to determine the achievement of four objectives:

1) provision of effective manpower to work on poverty programs;
2) effectiveness of university management;
3) integration of the community-academic study program; and
4) involvement of the university in local poverty communities.

This survey reported characteristics of enrollees, sponsors, and program activities.[43]

Other program evaluations are underway but the results were not available at the time of writing. It is anticipated that new reports will become available in a few weeks or months. The first large-scale cost-benefit study of VISTA is in the planning stage.

A Model for Program Evaluation

With respect to the measurement of program success, as we have pointed out, the situation is complicated by the fact that not all programs require the statement of learner objectives in measurable terms. Freeberg's observation that for many governmentally-funded manpower training programs "statements of intent have often been highly general and too rarely translated into applicable behavioral objectives" is equally true for some of the school-based programs that have been reviewed. And without statements of quantifiable objectives, it cannot be determined whether programs have reached intended outcomes. An example of a change in the right direction is represented by the requirements for third party evaluations under the Exemplary vocational education program which state that the program evaluation plan must describe, first, the steps by which it will be determined whether objectives of the program have been accomplished and to what extent. The plan must also state how the evaluator will determine what factors either enabled or precluded the accomplishment of the objectives and how the successful aspects of the program can be included in other vocational education programs.

A paper prepared by Robert Morgan, describing a model for evaluating the North Carolina Exemplary Program, comes to grips with the problem of ways of measuring student progress which can lead both to program revision and improvement, and allow comparison between programs. It seems appropriate to briefly summarize this approach to evaluation which may be useful in determining the success of not only future exemplary programs, but other vocational education and work experience programs as well.

Morgan points out that the objectives of the vocational education programs have been stated in general terms by USOE policy papers, but that these must be translated into more specific objectives.

> Once the objectives are specified, the operational procedures and resources required to attain the objectives may then be determined. The operational procedures and resources constitute the technology of education, the combination of human resources, hardware, and software which are needed in an appropriate mix to ensure the attainment of the objectives. Included also in the technology is the know-how by which these resources are mixed and applied. The methodology, the emphases, the curriculum, and the materials all form part of the technology of the educational process. Finally, of concern to project evaluation are the actual outputs, or products, of the program.[44]

Evaluation may proceed at the process level and at the product level.

> First, evaluation at the process level allows one to monitor the system and its component parts in order to determine if process objectives are being carried out by project personnel and to identify departures from specific procedures. Second, evaluation at the product level enables the examination of the results of the project activities in terms of the physical entities produced and the behavioral changes produced...[45]
>
> The assessment of the product of vocational education is the more difficult to perform. Yet the crux of the evaluation problem is the congruence between the actual outputs of the program and the product objectives of the program. A prime concern of the decision maker is the extent to which these two entities are in juxtaposition. The prime function of an evaluation program is to produce the information necessary to determine the extent to which these two entities are in accord.[46]

Product objectives of the North Carolina program are listed in Appendix C along with a description of how the attainment of each objective will be assessed.

Morgan sums up the utility of such an evaluation approach by stating "that a general model of evaluation needs to be developed if we are to approach maximizing the benefits of the Exemplary programs."

> The utility of such a model is apparent since it would allow the evaluation results of the various programs to be compared, thereby greatly reducing the complexity of identifying the factors that contribute to a successful program, and strengthen the arguments for continuation and expansion of the successful aspects of each program.[47]

The above discussion is concerned with summative evaluation. Formative evaluation which provides a means of determining which parts of a program are related to which effects or results, is included as part of the process of developing curricula and materials for career/vocational education programs, e.g., the NIE career education models and the BOAE curriculum development programs use formative evaluation procedures.

This process was discussed briefly in connection with the NIE model descriptions.

Development of Counseling Instruments

In the area of manpower training, an important focus of the research has been the development of measures and instruments to predict the success of trainees, who have particular characteristics, after placement in certain kinds of jobs, and to make a good match between the trainee and the job.

The Department of Labor has sponsored significant research in the development of instruments for guidance counseling for manpower programs. A product of one of the studies dealing with counseling techniques, funded by the Department of Labor, is a state-of-the-art document on assessment tools used in counseling disadvantaged persons for job training or placement purposes.[48] The main purpose of the review was to summarize available information about assessment of the disadvantaged in manpower programs, under the assumption that traditional assessment may be inappropriate for use with the disadvantaged.

The review was planned to "suggest how to determine the most appropriate instrument to be used in any particular situation, how to combine them, if possible, how differences among them might be reconciled, whether any gaps exist for which program elements are not now available, and what further development or validation is required."

The document analyzes about twenty-five aptitude, interest, achievement and personality measures. Among the twenty-five, nine included as their main purpose, counseling and the personal development of trainees. Among these were personality and attitudinal measures and measures of work attitudes, including studies on motivation to work, self-concept, interpersonal relationships and tolerance to bureaucratic structure. One ETS Youth Test battery included tests on attitudes toward authority, self-esteem, deferred gratification, vocational aspirations and motivation. Thus the area of test development is beginning to include the development of measures of some of the "coping abilities" this report has suggested are needed, in addition to specific job skills, for success on the job.

This same Educational Testing Service Test Battery for Disadvantaged Youth, mentioned above, was one of two selected by the reviewers to be more promising than the others. A major reason for its selection was that it includes "supportable criteria for measuring its own success." This means the construction strategies used produced a "formally developed psychiatric measure," of the kind recommended by Freeberg.[49] (Freeberg, in fact, was the principal in the development of this test battery.)

The author points out in his conclusions, with respect to vocational guidance tools for manpower training programs, that since most of them are of fairly recent origin, they have not as yet realized their full potential. He recommends further test development research and some general program refinements as necessary to improve the work of the manpower guidance counselor. His conclusions are summarized as follows.

> Rigorous validity studies of new devices are needed and further basic research into the nature of disadvantagement seems warranted. When sponsoring development of new assessment tools, funding agencies should set precise guidelines, with special attention to the need for flexible assessment devices. Also, further study seems necessary if we are to learn which new tools are most appropriate for given situations, and under what conditions assessment of any kind ought to be used.

> Possible program refinements include the specification of measurable manpower program goals and increased coordination of all ongoing R and D studies in the assessment area. A particularly important need seems to be development of systematic mechanisms to disseminate the results of research studies that develop promising new assessment tools. Mechanisms proposed include conferences of researchers and practitioners, utilization-oriented guidelines for DOL-sponsored research, and books, newsletters or media centers in the assessment area.
>
> The state-of-the-art in assessment tools for use with disadvantaged persons in manpower programs seems to suffer primarily from a condition of fragmentation. Potentially valuable research is being conducted, but without an articulated policy defining goals, promoting comparison studies, discouraging duplication of effort and encouraging creation for use. The Department of Labor and other sponsoring agencies need to take leadership roles in introducing mechanisms to coordinate ongoing research, and to get what is known put into practice. By such steps, the quality of assessment in manpower programs might be improved substantially, although individual assessment tools still will stand or fall on their own merits in given circumstances.[50]

In his recommendations for better research utilization, Backer specifically recommended increased liaison between DOL researchers and those supported by the Social and Rehabilitation Service who are developing rehabilitation counseling instruments. He points out the following:

> Both provide special counseling, training and placement services for individuals whose entry into the world of work via ordinary channels is restricted. Physical, mental, or emotional handicaps do present different problems of vocational adjustment than do cultural or economic handicaps, but the key concept of low employment probability provides much common ground. Moreover, SRS is directing more attention than before to the culturally disadvantaged.[51]

An important landmark, funded by SRS, in the measurement of work experience and work adjustment was the completion in 1972 of the Minnesota Studies in Vocational Rehabilitation--Work Adjustment Project. This was a continuing series of research studies which started in 1964 on the general problem of adjustment to work, with specific focus on the problems relevant to vocational rehabilitation services. Thirty monographs were published during this research period and numerous reports and dissertations on separate research projects are also available.

The major accomplishments of the project have been "the articulation of a conceptual framework of research and practice--the Theory of Work Adjustment--and the development of instruments with which to measure the concepts in this theory."

> The Theory of Work Adjustment is based on the concept of the correspondence between the individual and the environment. Correspondence is described in terms of the individual fulfilling the requirements of the work environment and the work environment fulfilling the requirements of the individual. The individual is described in terms of his vocational abilities and needs, and the work environment, in terms of ability requirements and occupational reinforcers. Correspondence between abilities and ability requirements is used to predict job satisfactoriness. Correspondence between needs and occupational reinforcers is used to predict job satisfaction. Satisfactoriness and satisfaction, taken together, can be used to predict job tenure.[52]

Instruments developed for the Theory of Work Adjustment include the "Minnesota Importance Questionnaire," the "Minnesota Employment Satisfaction Questionnaire" and the "Minnesota Job Description Questionnaire."*

The Minnesota studies are important with respect to this report for two reasons: (1) they give an example of the development of a work theory based on research; and (2) they make available instruments and information which can be of use in the measurement of important abilities identified as necessary for success on the job. Among the monographs that are of particular interest are, "Factors Related to Employment Success," "Attitudinal Barriers to Employment," "The Measurement of Vocational Needs," and "The Measurement of Occupational Reinforcer Patterns."

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*For information on how to obtain documents and test manuals, write to: Dr. Rene V. Dawis, Department of Psychology, N555 Elliott Hall, University of Minnesota, Minneapolis, Minnesota 55455.

The last monograph in the series describes the various uses of the tests. It is entitled, "Application of the Theory of Work Adjustment to Rehabilitation and Counseling." For those concerned with methodology and instrumentation in work experience research, two papers--"Methodological Problems in Rehabilitation Research" and "Instrumentation for the Theory of Work Adjustment" will be especially useful.

Large Scale Longitudinal Surveys

Career Thresholds and Years for Decision

In 1965, the Department of Labor funded a five-year longitudinal study on the educational and labor market experiences of two groups of interest to this report: one group were young men fourteen to twenty-four years of age and another, young women of the same age range. Two other groups, men forty-five to fifty-nine years of age and women thirty to forty-four years of age also were studied, but are not discussed in detail here. These four groups were selected for study because each faces special labor market problems. For the young men and women, the problems include those we have focused on, namely, those revolving around the process of occupational choice and preparation for work, and the "difficult period of accommodation to the labor market when formal schooling has been completed."

Each of the four studies views the experience and behavior of individuals in the labor market as resulting from an interaction between the characteristics of the environment and a variety of characteristics of the individual. The four also have a set of objectives in common:

> Each study seeks to identify those characteristics that appear to be most important in explaining variations in several important facets of labor market experience: labor force participation, unemployment experience, and various types of labor mobility. From one point of view, the general objective of all of the studies might be defined as follows: to uncover the complex of economic, social and psychological factors that are associated with successful adaptation by individuals to the labor market. Knowledge of this kind may be expected to make an important contribution to our understanding of the way in which labor markets operate and thus to be useful for the development and implementation of appropriate labor market and manpower policies.[53]

In the conduct of the study, each age cohort was surveyed at annual intervals, for a total of six surveys in the five-year period. All surveys on each of the groups have now been completed. Reports on the second survey of the young women and on the fourth survey of young men are presently available. Reports on every survey and final reports for each group will be prepared along with a major volume integrating the results of all four studies. It will be perhaps two years before the final document is completed. "At the conclusion of the project, the published reports will provide the most detailed and comprehensive set of work history and attitudinal data ever accumulated for national samples of individuals." [54]

The opportunities for analysis of this data will be almost limitless. Not only will it serve to expand the understanding of the labor market, but it can be useful to policy and program planners in many fields whose interests touch on the lives and well-being of young people.

Since the coverage of the reports is too extensive to be fully summarized, only relevant excerpts will be quoted here. The complete concluding statement of the latest report for the young men (Volume IV) appears in Appendix D. It summarizes findings relating to the labor market experiences of youth who graduated from or dropped out of high school during the thirty-six month study period, and the labor market experiences of youth who already were out of school at the beginning of the survey.

The following quote from Volume I, the report of the first survey, describes some of the areas of investigation:

> We have examined the labor force participation and the unemployment experience of both students and nonstudents and have explored the sources of variation in these variables. The types of jobs held by employed students and

> nonstudents have been analyzed, including hours of work and rates of pay. A beginning has been made at studying the mobility of out-of-school youth by noting the job changes they have made in the past year as well as those since having left school. Variation in the extent of information about the world of work has been measured by means of an occupational information test, and the determinants as well as some of the labor market consequences of this variation have been explored. For employed youth not enrolled in school, we have analyzed the extent and the sources of job satisfaction and also have explored the prospective mobility of the young men as measured by their relative willingness to consider alternative jobs. Finally, for that portion of the age cohort still in elementary or high school, we have examined aspirations and expectations with respect to further education and future occupation.[55]

The quote from Volume III, the report of the third survey describes emerging conclusions:

> For those whose schooling was completed even at the time of the first survey, the labor market experiences over the two-year period display basically the same pattern as did the one-year record. (As has been seen, the one-year report did not support the hypothesis that job-changers enjoyed greater wage increases than non-changers, as is true of the two-year record reported here. But this difference may well be attributed to the more refined methods of measurement that have been used in the present report.) By and large, the labor market appears to operate fairly well for a substantial majority of this group of youth, both in terms of assuring continuous employment and in promising the opportunity for improvement in economic and psychological reward from work. Moreover, there continues to be evidence that the passage of time helps to mitigate the employment problems that substantial numbers of the younger and less well educated members of the cohort encounter.
>
> It is perhaps unnecessary to observe that this does not argue for complacency, since the evidence also suggests that the numbers who experience substantial labor market problems are unnecessarily large. As we indicated in the concluding paragraph of our previous report, a major objective of the total longitudinal study is to analyze the characteristics and the experiences of this group in the hope that the analysis will suggest measures for mitigating the problems they face. To some extent, of course, this has already been done, and the evidence thus far points to the importance of such factors as educational attainment and of the extent of labor market information. But additional analysis is required before even these ostensibly obvious

> conclusions can be proclaimed with confidence. We do not yet know, for example, to what extent number of years of school completed is reflecting the influence of such factors as intelligence and motivation rather than the pure effect of educational attainment. Nor are we certain that our measure of labor market information is really measuring knowledge of the world of work rather than intelligence. Questions of these kinds remain to be answered on the basis of multivariate analysis, some of which is already in progress.[56]

For the young women, Volume I is completed and Volume II is in preparation. Volume I is the report of the initial interview survey conducted in 1968. The following quote from Volume I summarizes some of the unique problems of women and describes the research:

> Several facets of the educational and labor market experiences of young women have been analyzed in earlier chapters of this volume. The analysis thus far, however, is but a prologue to an intensive longitudinal study of the career choices, educational experiences, labor market behavior, and unfolding familial responsibilities of women fourteen to twenty-four years of age. Most of the girls near the younger end of this age continuum are still in high school. Many at the other end have finished school, have gone through a process of accommodation to the labor market, and especially if they have children, have withdrawn from active participation in the labor force in order to care for their families at home. These are critical years in the lives of most women, years in which a young girl is faced with options and pressures to continue or to leave school, to seek a husband, to stay with her parental family, or to develop independence. These are truly "years for decision."
>
> The total five-year study is designed to answer a number of questions related to this transition from school to home and work. We wish to understand, for example, how factors such as family background, family income, marital status, and the presence and number of children at home influence education and employment decisions. We explore the sources of variation in labor market behavior and experience in terms of several additional variables as well, such as color, highest year of school completed, job skills, health, access to child-care services, attitudes toward work and the proper role of women with children of preschool age, and local labor market conditions.
>
> This volume has set the stage for longitudinal analysis of the cohort by examining its current school and labor market

status. We have assessed the labor force participation and the unemployment experience of both students and nonstudents, and we have looked at probable sources of variation in these variables. We have likewise examined the future employment plans of those who were out of the labor force at the time of the survey. The types of jobs held by young women have been analyzed, along with hourly rates of pay, and child-care arrangements. We have also explored the prospective interfirm mobility of employed female youth as measured by their willingness to consider hypothetical alternative jobs. Finally, we have examined the aspirations and expectations with respect to further education of girls fourteen to seventeen years old who are still in elementary or high school.[57]

Because of the potential importance of these surveys, we have included in Appendix E, a statement of the kinds of analyses to be made and major types of hypotheses that will be tested and reported on as documents are completed. Although the statement is taken from the report on young women, it parallels that to be found in Volume I for young men. Of particular interest is the intent to test the predictive value of several attitudinal measures and to assess their stability over time.

Project Talent

Project Talent is a large-scale twenty-year longitudinal study funded by the Office of Education and other Federal agencies, which has the overall goal of understanding the nature and development of the talents of the nation's young people. Within this broad context, the project has the following specific goals:

1) To obtain a national inventory of human resources.
2) To develop a set of standards for educational and psychological measurements.
3) To provide a comprehensive counseling guide indicating the patterns of aptitude and ability which are predictive of success and satisfaction in various careers.

4) To formulate a better understanding of how young people choose and develop their life work.

5) To identify the educational and life experiences which better prepare students for their life work.

These objectives suggest that Project Talent has a definite career education and work experience perspective. Through the analysis of data collected, it will be possible to tie in various educational and life experiences with preparation for, selection of, and success in specific occupations, as well as adjustment to the world of work.

The initial phase which began in 1960, consisted of the collection of data from a representative sample of the country's entire high school population, consisting of 400,000 students, ages nine through twelve. The overall design provided for follow-ups approximately one, five, ten and twenty years after each of the four classes graduated from high school. The project will be completed in the early 1980's. The one-year and five-year follow-ups have been completed for all four years, and an eleven-year follow-up is in process--and completed for the later grades. (An eleven-year rather than a ten-year followup was made.)

The follow-up information, which is available for analysis, includes information on high school education, educational plans, college performance, work experience and general information. In addition to the follow-up information, data collected during the initial survey is available for research purposes. This means that an enormous reservoir of information can be tapped for the study of young people in the process of making the transition from youth to adulthood. For example, data can be obtained on the individuals who took the tests in 1960 and compared with their present characteristics and situation. Test developers can calibrate their instruments against Project Talent tests. Other uses which can be made of the data are described in the Project Talent Handbook.[58]

The kinds of student measures used during the initial data gathering phase include information, aptitude and ability tests, and questionnaires relating to student background, interests, activities and plans. (A school questionnaire included questions on the school guidance program, school curriculum, and extracurricular activities.) The Interest Inventory was developed for the purposes of surveying the interests of high school youth and of obtaining data for research on subsequent educational and vocational choices. The Student Activities Inventory is a personality measure. Data furnished by this measure can be used, for example, to determine how personality differences help to account for differences in the accomplishments of equally talented people, or how personality traits "make up for" low levels of academic aptitude and achievement. It would be of interest to know how much the employability of such individuals depended on the possession of certain personality traits. Qualities such as self-control, initiative and knowing how to get along with others may be useful in qualifying low achieving academic people for jobs not needing high academic aptitudes.

More information on Project Talent may be found in the report of the five-year follow-up phase, entitled Five Years After High School.[59]

Youth in Transition

Youth in Transition is a completed nationwide longitudinal study which was sponsored by the U.S. Office of Education to examine the causes and effects of students dropping out of school. Results are based on a

2

study of over 2000 young men, sampled from among tenth graders in 1966, and followed up in a total of four data collections, concluding in 1970.

The study dealt with patterns of change and stability which can be linked to different family, high school and post-high school environments. Interest focused on a number of areas of growth and change, including dimensions of mental health, the self-concept, values and attitudes, plans and aspirations, and behaviors. The study was undertaken as part of a broader program of research on the ways in which individuals are affected by the social psychological characteristics of their immediate environment. It was hoped the study both would provide information relevant to public policy decisions and make a contribution to basic research in the social sciences.[60]

In examining the causes and effects of students' dropping out of school, several "substudies" were conducted. They included investigation of the following:

1) Causes and effects of dropping out.
2) Family background and intelligence.
3) Differences among schools.
4) Vocational programs in high schools.
5) Post-high school environments.

Several "spin-off" studies included youth views on national problems, young men and military service, drug use and attitudes, and young men's views on family planning and population problems. Some of the conclusions most relevant to this report are quoted below.

Causes and Effects of Dropping Out of High School

> Dropping out of high school is overrated as a problem in its own right--it is far more appropriately viewed as the end result

or symptom of other problems which have their origin much earlier in life. The difficulties experienced by the dropouts we studied--the low aspirations and accomplishments, and even the limitations in self-esteem and self-concept--were already present or predictable by the start of the tenth grade, and there is little evidence that dropping out made matters worse.[61]

Effects of dropping out: personality and behavior. More than a score of personality and behavior dimensions, measured over a span of nearly four years, were examined in an effort to determine the effects of being a high school dropout. Our clear conclusion was that there are very few changes of any consequence and virtually none that would support the argument that dropping out damages a young man's "mental health" and his commitment to society's values. This conclusion is based on a wide variety of scales including self-esteem, feelings of personal efficacy (internal control), negative affective states, somatic symptoms, aggressive impulses, needs for self-development and self-utilization, social and academic values, attitudes about government and public issues, delinquent behavior, and occupational aspirations.[62]

Effects of dropping out: occupational attainment. We conclude that dropping out probably makes it more difficult to obtain employment; however, the more important causes of unemployment are those pervasive differences in background and ability which precede and help determine the act of dropping out.

Thus while unemployment rates may be twice as high among dropouts as among stayins, it is very misleading to claim that the act of dropping out will double a man's chances of being unemployed. The difference in unemployment rate is caused primarily by family background and ability factors and these things are not changed when a young man drops out of school.

Of course, the majority of both dropouts and graduates in the labor force were gainfully employed. When we compared employed dropouts with employed high school graduates, we found their weekly income levels to be nearly identical... There is also little justification for the view that dropouts get less satisfying jobs. Three-quarters of the dropouts rated themselves "quite satisfied" or "very satisfied" with their jobs, while two-thirds of the graduates expressed similar levels of satisfaction. Additional ratings of job characteristics showed little in the way of consistent

> differences between dropouts and graduates; certainly it was not the case that dropouts showed less job satisfaction than graduates.[63]

Vocational Programs in High Schools

> Background and abilities of vocational education students. Vocational education students came from lower socioeconomic level families, on the average, than students in the other curriculum categories. The differences were most pronounced between the vocational students and those preparing for college--nearly a full standard deviation. Similar differences were found in tests of intelligence, reading ability and vocabulary skills.[64]
>
> Dropout rates among vocational education students. Vocational education students had higher than average dropout rates. But this was equally true of students in business and general programs--all were about three times more likely to drop out than college preparatory students...[65]
>
> Given that the vocational education students were relatively "dropout prone," the question arose: Does being in the vocational program increase or decrease the likelihood that a young man will drop out of school? The results of our analysis clearly indicate that after adjusting statistically for differences in family background, ability, and past school performance, vocational students actually dropped out a bit less frequently than would have been expected. By way of contrast, students in the general curriculum dropped out more often than would have been expected--their adjusted dropout rate was about one-third higher than that of vocational, business, and college preparatory students.
>
> In sum, the vocational education programs attract a considerable proportion of "dropout-prone" individuals--as do all programs except college preparatory. But being in a vocational program does not increase the likelihood of actually dropping out; if anything, vocational programs may have a slight tendency to reduce dropping out.[66]

The study on high school and post-high school youth not only shattered some popular beliefs about vocational students, it also confirmed earlier findings of the Coleman report that differences in learning do not depend upon the program of the school. In short:

> We found differences between schools, to be sure, not only in test scores, but also in educational and occupational aspirations, values and attitudes, affective states and so on. But when we sought the causes of these differences, we found almost invariably that they could be attributed to individual differences in background and basic abilities. In short, the differences among schools in our study appear to be due to input characteristics rather than genuine school effects.[67]

The use of this finding as a basis for recommending alternatives to the traditional twelve years of school for all students will be discussed in the following chapter.*

Research Summary

The research conducted in relation to the variety of Federally sponsored work experience programs reviewed here occurs in more or less discrete areas depending on the sponsoring agency and its legislative mandate. Curriculum development efforts sponsored by the Office of Education, and NIE research in career education model development, emphasize the validation of curricula and materials through the inclusion of measurable performance objectives. Manpower training and volunteer programs sponsored by DOL and ACTION focus on program evaluation in terms of number of disadvantaged placed in jobs and impact on poor communities, respectively, while encouraging projects at the local level to specify learner objectives in measurable terms.

In the area of work-specific test development, important research work has been conducted by DOL and SRS for vocational guidance purposes. SRS has developed a fairly sophisticated methodology in the area of evaluation and work adjustment; much DOL work in this area is in the beginning stages. Both DHEW and DOL are sponsoring large-scale longitudinal studies to provide the data bases necessary to conduct present and future research on finding ways of providing beneficial work experience for all youth and determining what the effects of various kinds of learning experiences may be. Finally, the military, which has a long history in developing effective occupational training, is entering into an exploration of the possibilities of cooperating with the public school sector in the area of career education.

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* Copies of the final report from which these quotes are taken and published monographs on selected subjects may be obtained from the Youth in Transition Project, Institute for Social Research, The University of Michigan, Ann Arbor, Michigan, 48106.

Research was organized for review in two ways: (1) as it has been mandated to be carried out by the agencies and (2) according to three broad research categories--test development for counseling purposes, summative evaluations, and surveys. Additional remarks will be made about findings in the two latter categories which may have cross-program significance.

The large-scale surveys all have in common an interest in the determinants of the behavior of young people in the labor market or in the schools and the effect of job and educational experiences on subsequent behavior. Each has a different orientation. The DOL studies (Career Thresholds and Years of Decision) are looking at some broad policy-related issues, collecting job histories and studying the effect of knowledge of the world of work on subsequent job attainment (among other things). Project Talent has specialized in the development of a battery of interest, attitude, ability and personality measures, and the collection of an array of educational and occupational data pertaining to young people. The data and the instruments are available for use by researchers who are interested in test development and the study of youth moving from school to work. Youth in Transition had the narrowest focus of the four longitudinal studies reviewed, being concerned specifically with the causes and effects of dropping out of school.

The Youth in Transition study is of particular interest because it was concerned with the effects of various school experiences on self-concept, values and attitudes, and other behaviors. Also, it is one of the few studies reviewed that has been completed. To review briefly its major findings, the study concluded that dropping out of school did not injure or lower an individual's existent self-concept. Leaving school was seen as a symptom of other problems rather than a problem in its own right. A major recommendation was that remedial efforts designed to improve individual attainment should begin far earlier than high school, perhaps before elementary school. Family background factors were found to have pervasive effects, especially the socioeconomic level. "These are strongly related to measures of intelligence and academic ability, and the latter dimensions are in turn related to school performance, occupational aspirations...and dropping out." With regard to vocational education students, dropout rates were a bit lower than would have been expected based on their background and ability scores. It was recommended that vocational programs emphasize the work-relevance of courses since vocational education students "prefer work over school activities," and that vocational education teachers be given guidance training since students go to these teachers for counseling more often than to school counselors. Youth in Transition research also resulted in a recommendation for alternatives to twelve years of formal school. It was suggested that the last two years might be spent in college preparation academies, in vocational training or work-study programs, or in full time employment followed by a return to part time or full time education. Finally, the report stressed the importance of longitudinal design for conducting certain kinds of research:

> The longitudinal design of our project was vital in reaching our conclusion that dropping out is primarily a symptom. We knew from other research that there were differences between those who dropped out and those who did not, but we were not clear about the extent to which the dropping out produced the differences, or vice versa. In other words, we knew that a relationship existed, but we needed a longitudinal design to learn more about the direction of causation underlying that relationship.
>
> By way of contrast, our examination of differential school effects turned out not to be heavily dependent upon the longitudinal design. If we had found important differences in evidence at the end of high school (differences not explainable in terms of ability and family background), then we would have turned to the longitudinal aspect of the study to see whether those differences arose during the high school years rather than the junior high or elementary years. But those differences did not appear.[68]

Next, the program evaluations are of interest over and above having specific program relevance in that they may be useful to provide insight into the kinds of work experiences that are successful for certain kinds of individuals. This may be done by analyses of the relationship between specific program characteristics and specific trainee characteristics. A number of evaluations contain information of this kind that may be useful in subsequent research. The research connected with the Work Experience and Career Exploration Program (WECEP) is of particular interest because it attempted to answer specific questions about the effects of work experience programs on the student participants. It is not uncommon to find statements asserting the benefits of experiential learning and work experience--they are assumed to result in "lower dropout rates, higher marks in school subjects, improved self-image" and so on. However, the WECEP study alone, of those reviewed, adressed itself specifically to these issues. The report of this research may be of special significance for the light it may shed on these and other important questions related to the effects of work experience.

Let us consider the information obtained from this review of Federally sponsored research, as it relates to the issues of special interest to this report.

With regard to the question of the statement of learner objectives for work experience programs, the trend seems to be in the direction of more and more frequent inclusion. Most training programs require them as a matter of policy; the actual inclusion and quality of instructional objectives and performance testing generally vary from one local project to the next. The NIE research programs and the OE Curriculum Development program base instructional development on behavioral objectives, and the Exemplary programs have a basis for doing program evaluations which will determine whether intended outcomes have been achieved.

Measures of personality and attitudinal factors are being developed in the manpower training and vocational rehabilitation areas. Other instruments which may be of use in measuring coping abilities and interpersonal and social skills have been developed in conjunction with the major longitudinal surveys of young people that were reviewed.

A recent publication of the National Council on Measurement in Education tied together the methods of measuring affective behavior (defined as behavior which has "significant emotional or feeling components") and the need to define objectives in the affective domain as a basis for assessment.[69] Once objectives defining values, attitudes, interests and appreciation are selected and defined, "it is possible to assess, at least crudely, the students' achievement of these behavior patterns."

As for the matter of accreditation, the practice is for schools and colleges to grant academic credit for work experience taking place outside the classroom, with the kind and amount of credit depending upon local schedules and conditions. National accrediting agencies have stated as a policy the need to give recognition for nonclassroom learning and have pledged cooperation in working out accrediting systems. (See Appendix F.)* Increased attention to the need to state objectives in terms which make valid assessment possible will contribute to the solution of the accreditation problem. Objective and valid assessment is essential to the accrediting of instruction in any area.

The emphasis on helping young people find the jobs and careers best suited to their needs, abilities, and interests, particularly in the application of the career education concept, suggests a trend in the direction of greater individualization of instruction. The purpose of the strong counseling emphasis in manpower training and vocational rehabilitation is to try to match the individual with the educational and training program, and the job, that is best for him. The research associated with the development of the four career education models at NIE hopefully will be a good source for future information on the methods and practicability of providing each individual with his own program of work-related instruction.

A major "finding" of this review is that there has been too little research on these four specific issues and on the effects of work experience in general to be able to draw concrete conclusions. Nowhere is the evidence scarcer and more inconclusive than in relation to the area of effects. While there have been some beginnings, as we have mentioned, there does not appear to be a systematic plan to study the broad and interrelated effects of new methods of preparing youth for roles as adults. We must know the effects of work experience programs, first and foremost, on the young people themselves and on the other participants, and then on the educational traditions and community institutions involved: on schools, employers, labor, volunteer agencies and others.

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* The American Council on Education has recently undertaken a national study on the transferability of credit between school levels and programs which will provide information on accreditation.

Within the broad area of effects, the assumption that work experience is "good" for young people has been of special interest and, to conclude in a positive vein, it appears that the employer-based career education models being developed under NIE sponsorship may provide present and future opportunities to study some of the important effects of work experience on the personal growth of young people. For example, the fact that much of the instruction is planned to take place in a real world adult environment, where the young person plays a participatory role, provides a setting in which he can assume responsibility for the effect of his actions on the welfare of others. (This factor is paramount also in the basic idea of the various volunteer work programs.) Additionally, the students participating in the employer-based models are directly involved in decision-making with respect to the make-up of their individual programs and this is based upon the principle that each student has primary responsibility for his own future. Other questions being explored by the employer-based models, related to both persons and institutions, include the following:

1) Can an employer-based career education model be operationalized as a feasible, effective and efficient alternative to existing secondary programs?
2) How much and what segments of the total educational experience can be effectively undertaken by employers?
3) For what types of students is an employer-based career education model an effective and efficient alternative?

4) Does the program improve student learning in academic areas?
5) Does the program enhance the student's ability to make informed career choices, to obtain a job, and/or to continue further education?

The review of research reported here has suggested that there is a substantial base of research in the occupational training area that needs further examination, that volunteer work may provide some significant topics for study, and that promising research programs are being conducted and planned in connection with the implementation of career education. More planning of research is needed to develop coordinated support for the study of significant issues and questions identified by reviews such as this one, and synthesizing reviews that may be conducted in the future.

Chapter 5

RECOMMENDATIONS FOR FUTURE RESEARCH

The relative newness of direct Federal involvement in work experience programs means that much of the research related to a majority of programs described in this report is also in its beginning stages.* As mentioned in the Research Summary above, reports of some major studies are expected to appear in the next several months, or weeks. Two of these, of national significance, are briefly summarized below. One is the report of the National Panel on High Schools and Adolescent Education and the other is the report of the Panel on Youth of the President's Science Advisory Committee.

A major exception to the relative newness of Federal involvement in the area of research in job training and education is the interest of the Department of Defense. As early as 1957, it was estimated that five percent of the 15,000 members of the American Psychological Association were working for agencies of the military, and "a good portion of the work performed by these individuals...has been devoted to research and development in problems of training and the underlying phenomena of learning that are involved."[70]

The research sponsored by the military in job skill training since the fifties, and before, has provided a good basis for research in similar and related areas being touched upon by some of the newer work experience training programs funded by other agencies. Even with this reservoir of knowledge, however, nearly every aspect of the work experience field discussed in this report needs further investigation, and in this final chapter, some of the issues and questions raised most frequently are summarized.

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*The first manpower training programs began in the early 60's, as did the first direct financial support of students' participation in school work-study and cooperative education programs. The strong support of career education started only in 1971.

Because of the need for additional programs and projects of research, a list of resources not reviewed for this report is included as the final section of the Bibliography. It is recommended that a follow-up supplement to this report be prepared, using these and other references, covering already completed Federal and non-Federal research, plus reports of research mentioned here but not completed at the time of writing.

A basic objective of this report was to point out some major areas of activity and concern and to open doors to further search and review. And it has concentrated on currently ongoing, Federally-supported activities to a large extent. Therefore, a supplementary review would help to give a more complete state-of-the-art picture.

Major Issues and Recommendations

In the program development area, a recommendation made with great frequency was that a statement of program and learner objectives be made in measurable terms for instructional programs. The argument was that without such explication of objectives, meaningful program assessment is impossible and research to continuously improve programs has no objective basis. The kinds of learning expected to take place in work experience situations cover a broad and varied range of objectives. These include skills necessary for academic success and for competence in a specific occupation; skills that are generalizable to all jobs and information that is useful in the job market at large; learning that promotes maximum self-development in the cognitive, affective, and physical domains, and situations that encourage concern for the welfare of other individuals. Finally, the broadest of the work experience programs attempt to instill an awareness of, and an ability to, contribute to the successful functioning of social institutions, the community, and national efforts.

Statements of such objectives are beginning to appear in Federal program guidelines and requirements, but still more work is needed at the Federal level and particularly at the local level. Research funds need to include monies to provide assistance and support to local schools and organizations for the development of programs which include statements of objectives and a procedure for the validation of learning materials based on such objectives.

A fruitful area of research with regard to objectives, is that of investigating the kind of objectives that could be used as a meaningful core or superstructure for the derivation of specific learner or instructional sub-objectives. One such framework that might be studied is that propounded by the cognitive-developmental or interactionist psychologists.[71] The various stages of a person's development, as defined in this theory, would represent the ultimate objective of instruction at each successive learning (or grade) level and the means of reaching each objective would include a broad variety of experiential learning activities. At lower levels of derivation or development, several sets of objectives could be stated for each level, representing different viewpoints and approaches and providing alternatives to those responsible for setting educational goals and objectives.

Indeed, one of the most useful cross-agency efforts the Interagency Panel might undertake is the sponsoring of a project to produce alternative sets of educational objectives for an experiential approach to learning, centered upon work experience. Research already completed and reviewed here, that would be appropriate for consideration, is that of Coleman,[72] Walther,[73] and Kohlberg.[74]

One of the basic needs is research to develop tests to measure personal qualities which broadly defined, cover social, emotional, and ethical development and more narrowly defined, include what have been called work adjustment skills or coping abilities. The latter may be thought of as lying along a continuum and becoming increasingly more specific to the work situation. At one end would lie such qualities as being able to work with others, in the middle perhaps, having the ability to plan work activities, and at the more work-specific end, being able to be at work on time and on a regular basis. Stating personal growth characteristics in behavioral terms makes valid measurement possible. The coping abilities and work adjustment skills, since they are more easily definable in behavioral terms, may be more easily measured. Methods to measure the growth of self-confidence or a more positive self-image or an increase in an interest and concern for other people, may present more of a challenge to the test developer, and stating their attainment in behavioral terms is the first step in the process.

Measures of such qualities are necessary to determine the full effect on the learner of work experience programs. Such tests are needed to provide empirical evidence for the rational belief that work experience helps to create self-confidence, self-reliance and a sense of responsibility, and for students still in school, a higher tolerance for the school situation and a lessened tendency to drop out. Studies on the problem of school dropout have been reviewed, and efforts to develop tests to measure attitude change and personal development, discussed. The development of methods to measure the effect of work experience on the personal growth of the individual is one of the most important areas of need. Tests for competence in occupations and knowledge of the world of work also need to be developed. (For a comprehensive listing of occupational achievement tests, see Directory of Achievement Tests for Occupational Education, Educational Testing Service, Princeton, New Jersey, 1971.)

The report of the Joint Commission on Mental Health of Children sums up the need for research on the effects of work on the psychological development of children:

> Work is viewed as beneficial in terms of developing the adolescent's sense of self-respect, accomplishment and competency, the management of time, and sense of responsibility to outside authority, and as valuable in developing an overall appropriate understanding of and orientation toward work... However, there have been few studies that have investigated the psychological implications of early work experience, and we have yet to scientifically determine the effects.[75]

The Commission stressed the need for a developmental theory of work which would be based upon a theory of adolescent growth and development. The Commission believes both basic and applied research are essential for the understanding of the process of adolescent development and the effect upon it of work experience. Basic research on the developmental characteristics and processes must precede or accompany the building of a developmental theory of work.

The need for reliable baseline data which can be used in making social policy decisions affecting young people is underlined in the paper

Federal Youth Programs prepared for the Office of Management and Budget:

> The lack of reliable data is a familiar problem to evaluators, but it is particularly striking when one attempts cross-program comparisons. Neither 'costs' nor 'participants' are defined uniformly and few programs make any attempt to define 'benefits' with sufficient precision to allow adquate record keeping. Some of the largest programs are the least well documented. We are struck by how little can be said about such basic points as 'cost per participant per year' because published estimates for a single program may differ by 25 percent or more.[76]

The paper recommends that "serious attention be given to the formulation of a core set of definitions pertaining to costs and enrollees for mandatory use by operating agencies." This recommendation is in line with the interest of the Interagency Panel in the definition of a common set of marker variables to be used by researchers in conducting and evaluating the results of their investigations.

The Panel on Youth of the President's Science Advisory Committee discussed a program of social experimentation related to a number of institutional changes that would assist young people in making the transition to adulthood. The Panel recommended pilot studies of the changes in order to obtain solid research information upon which policy decisions can be based. According to the Panel, prior experience should be gained "through explicit experimental design and systematic collection of data rather than in traditional casual ways."[77]

Eric Stormsdorfer, basing his opinion on experience with the evaluation of manpower training programs and the Work Exploration and Career Education Program (WECEP), has also argued for pilot programs or demonstration projects with built-in experimental designs, to precede widescale adoption of new programs.

> Since large amounts of scarce resources are involved, not the least of which is the student's time, and since the loss of good will of the society toward social and educational experimentation is a risk, it seems reasonable at this time to argue for an extensive use of pilot programs and relatively small scale experiments in the area of action-learning rather than to argue for the immediate institution of a full scale program. With such an approach we might then be able to design a better program set and avoid the frustration, disillusionment and hostility which society has expressed toward some programs such as the Job Corps. Past evaluations of social and educational programs have depended almost entirely upon "natural" experiments. That is, once a program has been in operation for a year or so, a case study or sample survey analysis is instituted and, by means of a comparison group, one attempts to discover what the net effects of the program are. This is a valuable evaluation approach and should not be discarded. However, for a number of reasons, this approach is less effective than a pilot program or demonstration project with a built-in experimental design.[78]

Among the advantages of pilot programs are that they permit the avoidance of self-selection bias, which occurs in natural experiments, and they provide the potential for studying a number of combinations of program inputs and directions of causality.

To continue with the report of the Panel on Youth, its basic premise is that the transition of youth to adulthood requires the meeting of broader objectives than those that can be achieved in schools alone. The report recommends newly shaped institutions to complement the activities of the schools as well as changes within the school structure itself. The proposals are made in the belief that diversity and plurality of paths to adulthood are necessary to meet the needs of youth and that schools alone cannot serve the needs of all students or even all the needs of some. In general, the institutional changes proposed, place youth in a different role from that of student:

> This different role involves either responsibility for his own welfare, or responsibility for others' welfare; it

> involves orientation to productive and responsible tasks; where it involves learning, it is learning through action and experience, not by being taught. Most of the proposed institutional structures also are designed to reduce the isolation of youth from adults, and from the productive tasks of society. This is intended both to bring about a greater degree of personal responsibility of adults for the development of youth, and to remove from youth some of the insulation that impedes the transition to adulthood.[79]

The institutional changes and alternatives proposed by the Panel to be the foci for social experimentation in small-scale pilot studies are summarized in Appendix G, as are the objectives of training for adulthood. The Panel also recommended that research be conducted on existing institutions, and the following are the research topics related to the school structure or to broader research issues they considered important.

> 1. We know very little about the cost of part-time work to academic achievement, or the returns from such work in terms of subsequent job availability and accumulated work experience. Several currently available bodies of data on the young, such as the National Longitudinal Surveys (Census-Ohio State), Youth in Transition (University of Michigan), and Project Talent data should be analyzed with such questions in mind.
>
> 2. The benefits and costs of interrupting schooling are not well known. Both the current experience of youth who postpone their entrance into college and the effect of past events, such as the impact of World War II on post-war educational and occupational experiences, should be examined.
>
> 3. The experience with national service programs, such as the Peace Corps, should be reviewed and systematized.
>
> 4. Existing research on the economic returns to schooling should be pushed further into asking more specific questions as to where, for what type of schooling, and at what age level, these returns really exist.
>
> 5. An ongoing representative panel of young persons of ages 14-24 should be established to study the general characteristics of successive cohorts of youth. The panel would consist of separate cohorts, which would be followed until they leave this age period and then resurveyed again, intermittently, throughout their lifetimes.

> 6. Discussions of the desirability of various alternative environments for youth are very much hampered by the lack of appropriate instruments to measure the impact of social institutions on those within them. Often, measurement is limited to measures of academic success (graduation and test scores) and economic success (income and occupation). These measures do not capture all important aspects of an institution's impact. More research is needed on non-cognitive measures of personal development and on more direct measures of social well being. The fact that we can neither measure nor agree on a definition of what constitutes a good life should not deter us from trying to improve the measures we have and to develop new ones.[80]

In this section, three major issues have been discussed. They covered the need to support the study of objectives, development of non-cognitive tests to measure the effects of work experience and investigation of social change on a small scale pilot basis.

Research Recommendations Relating to Specific Problems and Issues of Work Experience

This section will be a summary of some previously discussed research questions and others not previously mentioned, which have a more specific focus than the broader issues discussed above. For the most part, they represent areas recommended for research in more than one of the references; that is, they are questions stated relatively frequently as needing initial or additional investigation.

A highly significant policy-base report dealing with specific issues, is expected to be completed by early summer. This is the study of the National Panel on High Schools and Adolescent Education, being prepared for the Secretary of the Department of Health, Education and Welfare and the Commissioner of Education. Although the conclusions of the Panel are not final, they have been much concerned with the issue of work experience for adolescents and have considered a number of issues of basic importance. They have studied, for example, the quality and efficacy of present vocational education, ways of providing a variety of work experiences with different combinations of school, community, and employer involvement, and the necessity for developing methods of providing credit for learning achievement outside the classroom. The Panel has been particularly concerned with the necessity of having jobs available for youth when they are ready for employment, and the neutralization of barriers to youth employment such as minimum wage laws and workmen's compensation costs. The final report will contain the Panel's conclusions on these and other questions. Recommendations from other studies follow.

1. There are some areas in need of consideration which may be thought of as serving a facilitative function with regard to the employment of youth or the conduct of related research. One of these facilitative activities is to take the necessary steps to be sure jobs are available for youth--for those who want to participate in work-study arrangements and for those who are ready for full time employment. Preparing students psychologically and technically for jobs that do not exist obviously can have disastrous consequences. Therefore, a primary research need is the study of local and national job needs and the development of a job creation strategy to meet those needs--perhaps with leadership provided at the Federal level and with appropriate financial support made available for local investigations.

2. Additional studies need to be conducted related to the efficacy and effects of changing some of the present legislation which work to restrict the employment of youth under age eighteen, and makes

illegal the employment of young people below age sixteen in some jobs. A frequent proposal is to experiment with a dual minimum wage, with the idea that a lower one for younger, inexperienced workers will make it more likely that employers will be willing to hire them.

3. Local investigations should encourage schools, employers, unions, and community agencies (as well as parents and students) to work together to determine local job needs and to develop training courses on a cooperative basis to meet those needs, courses which provide experience in actual work situations. Such activities would help establish presently missing linkages and lines of communication among the community groups which must work together to provide effective work-study experiences for young people. Research should be designed to develop appropriate models for communication and cooperation.

4. Organizational structures for administering a variety of work experience programs need investigation. Multiple models need to be designed and evaluated--those involving traditional institutions using updated methods (the school systems and established community agencies), and new agencies and sponsors working outside the existing state and local vocational education system. The evaluations should be designed to determine what kinds of structures are best suited for particular purposes and for individuals with particular characteristics.

5. Research on each of the different kinds of work experience programs--on work-study, cooperative education, volunteer work, career

education programs--and on any new structures should include studies of such program elements as planning methods, different ways of developing and installing curricula, analysis of counseling methods and needs, the development of job placement programs, and provisions for follow-up of terminated students. Both cost-benefit studies and studies to identify causal relationships should be undertaken.

6. It is believed that the research efforts in the volunteer work area particularly should be expanded beyond the present research emphasis on program evaluation. Important data already gathered on program and enrollee characteristics could be the base for examining such questions as the effects of nonpaid (or low pay) volunteer work as compared with other kinds of work experience and for what kinds of individuals it is most beneficial. Also, the question of how volunteer work may fit into the overall work experience picture is a significant one.

7. In order to evaluate work experience programs, it is recommended that in addition to cost-benefit studies, Federal agencies sponsor process studies of the political and organizational dynamics of the implementation of new programs. Information is needed on the effects of agency linkages, bureaucratic structures and management procedures on the success or failure of such programs. This recommendation includes school and community processes as well as Federal agency functioning.

8. Some Federal monies for research should go directly to local agencies and schools, rather than having state agencies control all the

spending. It is hoped this will result in greater willingness to experiment with innovative organizational and instructional methods and make training more responsive to actual local job needs.

9. Further study is needed on ways of matching the individual to the kind and amount of work experience or instruction best suited to his needs, interests, and abilities. The degree of individualization which is both effective and practicable needs examination. Again, the costs versus the benefits need to be determined.

10. Increased effort is needed to develop effective techniques for career guidance counselors in schools, colleges, manpower agencies and elsewhere to advise students how to prepare for jobs and careers, with equal consideration given to vocational preparation and academic learning, according to the needs of the individual.

11. In the matter of curriculum development, it is felt to be extremely important that the social responsibility which is inherent in many occupations be emphasized in instruction. For example, knowledge of the adverse effect on the environment of some occupations and the responsibility of each person for these effects should be included in vocational education and job training.

12. In addition to measuring the effects on individuals of work experience, in cognitive and noncognitive areas, studies are needed to measure the effects of work experience programs on the institutions involved--on schools, communities and community groups, employers, unions, and the labor force. The need to provide ways for students to move

easily between school, work, and community settings and the development of a system to provide credit for learning in each of these environments is an example of such research. Another specific area of investigation is to experiment with increased flexibility in work scheduling, with regard to the number and arrangement of hours and days worked, and the time that might be made available by employers for study, community service, and leisure.

In the foregoing chapters, it has been pointed out that research in a few of these specific areas is underway but frequently is only just beginning. Any future research, undertaken on an interagency basis must be planned with a view to the gaps that exist in the broad research picture, the findings of past and ongoing research and, of course, on the missions and research objectives of each individual agency.

More Guiding Principles for Research Programs

This section reviews some final principles appropriate for the overall planning and conduct of research. The first five statements are quotes or paraphrases of recommendations made in the chapter on research of the Report of the Joint Commission on Mental Health of Children.[81] The intention has been to include the most relevant suggestions rather than to make a comprehensive statement of recommendations.

1. Assessment research must be made an integral part of existing research on model programs or pilot studies. The Joint Commission Report emphasizes the need "to redefine demonstration projects as innovative efforts which include evaluation and assessment as a central orientation...

it is necessary to stress that no demonstration project should be funded without appropriate rigor and relevant assessment techniques." (Justman, 1968)

2. There is a drastic need for longitudinal studies that follow participants for many years and monitor their career experience and personal adjustment factors. New techniques are emerging which promise to reduce some of the difficulties associated in the past with longitudinal studies. These involve the inclusion of different age cohorts which can be studied during the same time period, so that as much as a twenty year age span can be studied within a period of as few as five years.

3. Studies of the characteristics of populations who participate in various kinds of work experience programs need to be planned on a systematic basis and the findings integrated to provide a comprehensive picture of the kinds of individuals who benefit most from different programs. Such information along with information on local community conditions, collected during different time periods, will assist in the planning of programs best suited to meet the needs of individual students.

4. Ways must be explored to further coordinate Federal research activities related to the conduct of work experience programs. These are currently being diversely planned and sponsored in a number of Federal agencies, and while diversity of research is to be recommended, it also leads to duplication of effort, both in the conduct of research itself and in the "shopping around" of researchers looking for funding. More study needs to be given to the mechanism of interagency coordination of research.

5. More work needs to be done in relation to the development of better definitions, research methods in general, and instruments for research in the work experience field. The need for the former has been mentioned in relation to core definitions for cost-effectiveness studies, while the need for instruments to measure the effects of work experience programs has been a central theme of this report. Monies for methodological research must be provided if research monies spent in other areas are to yield maximum results.

6. The development of quality program criteria based on empirical data is highly dependent on the availability of baseline data that include follow-up information on participants in work experience programs. In order to obtain this essential follow-up information, special techniques need to be developed. One method recommended is the financing of a staff trained to collect data on a regular basis by means of maintaining periodic contact with former participants. This need is related to the problem of sample attrition and both need further study.

7. To provide a base for research in each program and program area, a thorough review should be made of the literature related to the research area to be investigated, as a starting place for the design of the research to be undertaken. This review should include information on ongoing and planned activities as well as completed research.

8. To facilitate the planning and conduct of research, studies are needed on the best means to provide for the dissemination of research results, between researchers in different agencies and between

researchers and practitioners in the field. Conferences, information systems, and literature reviews, are some of the means of dissemination that are available. These and others, it is recommended, should be included as part of the design of research whenever possible.

Conclusion

The recommendations for research relating to various aspects of work experience programs have covered the complete cycle of the research process, that is, they ranged from recommendations to review and synthesize relevant research as a base for further study, to suggestions to study and provide methods of evaluating and disseminating results of completed research. The major recommendations included the need for a statement of learner objectives in measurable terms to provide a basis for empirical evaluation of program effects, the validation of instructional materials and curricula before distribution (formative evaluation), the tryout of new social programs on a small-scale pilot basis with a built-in experimental design, and the development of measures for new kinds of objectives, that is, objectives in the social-emotional rather than the cognitive domain of personal development. These measures would include instruments to measure nonclassroom, experience-based learning.

In each of these recommendations, emphasis is on building an empirical base for instructional programs, in this instance, for those providing learning through work experience. The implementation of these recommendations would focus attention on the learner and add a scientific base to the approach which views teaching primarily as an art.

Perhaps the most significant question asked with regard to work experience programs is whether actual experience in a real working situation promotes social and emotional development beyond that which classroom learning can provide. This question has not yet been answered and few of the studies reviewed are attempting to answer it. An approach such as that outlined in the research recommendations will help to institute research which can provide the answer. As they suggest, a first step is to include personal growth goals in a statement of instructional objectives so they can be measured--with instruments that for the most part have yet to be developed. But without the statement and the measurement, conclusions about the potential of experience-based learning on personal development are primarily conjectural.

If additional research continues to verify the findings of the Youth in Transition study (and the earlier Coleman study) that school programs and practices have little differential effect on the achievement of students, then research on alternatives and complements to the traditional school experience must be conducted and their effect on individual students assessed.[82] Research dealing with the issues and questions reviewed above will help establish the efficacy and usefulness of work experience in a variety of settings as an alternative means of preparing youth for adulthood.

APPENDIX A

Components for the Validation of an Instructional System*

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* Information adapted from documents of Research for Better Schools, Inc., Philadelphia, Pa.

Learner Objectives

Student outcomes (learner objectives) in RBS' employer-based career education model will be assessed in terms of the following ten goals of quality education in Pennsylvania:

1. Acquiring self-understanding and an appreciation of self-worth;
2. Acquiring understanding and appreciation of persons who may be different from themselves;
3. Acquiring mastery of the basic skills in the use of words and numbers;
4. Acquiring positive attitudes toward the learning process;
5. Acquiring habits and attitudes associated with responsible citizenship;
6. Acquiring constructive health habits and understanding of the conditions necessary for the maintenance of physical and emotional well-being;
7. Acquiring skills to identify and utilize creative talents and abilities;
8. Acquiring understanding of and preparation for productive, responsible career opportunities and choices;
9. Acquiring understanding and appreciation of human achievement in the natural sciences, social sciences, humanities, and arts;
10. Preparing for a world of rapid change and unforseeable demands in which continuing education throughout life is a normal expectation.

Curriculum Content

The content of instruction has been organized into three broad categories: General Education, Explorative Education, and Specialized Education.

General Education includes the content areas commonly associated with a secondary school educational experience. The instructional content has been subdivided into three components: Basic, Extended, and Supplementary Education.

1. Basic Education provides the cognitive, affective and psychomotor skills without which no student can completely negotiate the instructional program of the Academy or function effectively in later life. The Cognitive area includes minimal levels of competence in mathematics and communication arts. The Affective area involves skills which cut across subject-matter lines, or reside in the area of intra- and inter-personal behavior. The Psychomotor area treats perceptual and motor activities such as strength, stamina, and coordination.

2. Extended Education includes many of the "core" content areas currently available to students in a typical high school, e.g., natural sciences, social sciences, humanities, and arts. It involves four required "survey" courses which act as a basis for informed individual student decisions about further study. This basic program will be supplemented by extensive curricula sequences for more in-depth study in these areas.

3. Supplementary Education provides an extensive variety of courses beyond the "core" curriculum (e.g., languages, physical education) which are tailored to meet individual needs and interests.

Explorative Education includes a wide angle view of the world of work and of a series of life situations. The nature of these explorative learning experiences can be distinguished from the more academic learning activities found in general education on the one hand and the more narrowly-focused work involvement of specialized education on the other hand.

Explorative Education will emphasize on-site study of the world of work and life situations as distinct from hands-on work experience and direct involvement with problem situations. The content of this phase will be more structured than the Specialized Education phase. Explorative Education provides a second step toward rational decision-making by increasing the student's awareness of the various options open to him. The instructional content has been subdivided into two components: Career Exploration and Life Skills Exploration.

1. Career Exploration will provide students with a perspective of the economic and business systems through a series of examinations of the nature and structure of related employers within the system (i.e., work cluster exposure) and an analysis of job and career opportunities within and across employer groups (i.e., work function exploration).

2. Life Skills Exploration is essentially a multi-disciplinary course organized around the topic of Perspectives in the Problems of Life in America, including such areas as: Managing a Career, Relating to Others, Managing Leisure Time, Home and Family, and Community Rights and Responsibilities.

Specialized Education allows the most extensive involvement with actual Career and Life Skill experiences and projects. The instructional design is again organized around two components: Career Specialization and Life Skill Specialization.

1. Career Specialization provides students with specific work experiences while simultaneously extending their understanding of functional job relationships across different employer clusters, through both short-term, cross-employer job performance and analysis (i.e., Functional Internships) and long-term residency at a single employer station.

2. Life Skills Specialization will involve students in a more intensive examination of specific selected problem areas in conjunction with

relevant public service agencies. Students will have the opportunity to develop projects to deal with individual and community problems as well as for long-term participation in established agencies.

Evaluation

The design of the evaluation system will be aimed at the production of information to guide decisions concerning the adoption or modification of the educational program. The educational program can be regarded as comprising three basic components: student inputs (personal characteristics of the students as they enter the program); student outcomes (the change in the cognitive and affective knowledge and behavior of the student which occurs after enrollment in the Academy); and educational operations (program elements which affect student learning and behavior). Inputs, outcomes, and operations will be evaluated and interrelated in order to reach decisions about the effectiveness of the program and its individual components.

The process of evaluating instruction begins with a definition of instructional objectives which for the RBS model are to be derived from the broad goals listed above under Learner Objectives. Collecting information about program effectiveness can also provide data on individual student performance with respect to instructional objectives, although there are also other ways of assessing student progress. Evaluation instruments may take the form of questionnaires, rating scales, achievement tests, and/or observational techniques. In the case of the school-based model, evaluation activities are included within the lessons themselves.

APPENDIX B

Major Findings of A Study of Four Neighborhood Youth Corps Out-of-School Programs and Future Research Areas*

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* From A Study of the Effectiveness of Selected Out-of-School Neighborhood Youth Corps Programs, (A Study of Selected NYC-1 Projects), Manpower Administration, Department of Labor, Washington, D.C., April, 1971.

Findings

The primary hypothesis of this research--that the NYC programs studied had helped enrollees achieve satisfactory adjustment to life and to the world of work--was not confirmed. An early conclusion that the NYC seemed to be most effective with Negro women was not supported by later data. First-round interviewing in the Retrospective study showed that female, but not male, subjects in the experimental group had significantly less unemployment than comparable subjects in the control group. In the second round of interviewing, however, no significant differences in unemployment were found for either male or female subjects. In the Retrospective, but not in the Prospective, study, both male and female subjects in the experimental group were found to be more self-supporting than comparable subjects in the control group. Although there was no clear evidence that the NYC effectively enhanced the employability of the average enrollee, there was evidence that some program components were having a significant effect. Formal skill training, work sites with training and employment opportunities, job development, and job placement assistance appeared to be associated with increased post-NYC employment.

Other major findings were:

--The NYC is reaching seriously disadvantaged youth with major employability problems;

--Enrollees, on the whole, gave a good report of the usefulness of the NYC program and the helpfulness of work supervisors and counselors;

--Negro females were by far the biggest group of enrollees and stayed in the NYC longer than other subjects. Negro males were the next biggest study group;

--White youth who enrolled in the studied programs were more disadvantaged than Negro enrollees in that the white youth averaged a year less school completed and were given a lower rating by intake interviewers;

--Male enrollees averaged less schooling and were more apt to have left school for academic or disciplinary reasons;

--Male enrollees were assigned most frequently to cleaning, maintenance, and unskilled labor positions;

--Female enrollees were assigned most frequently to clerical and professional aide positions;

--Subjects in both experimental and control groups were experiencing extensive maladjustment to life and the world of work. At the time of interview, the activities of upwards of 42 percent of the male subjects and 50 percent of the female subjects indicated that they were out of the mainstream of productive activity;

--The attitudes of enrollees are associated with their employability. In the study of work relevant attitudes, it was found that attitude questions differentiated on the basis of sex, race, and school status with the largest proportion of the variance associated with school status. A factor analysis suggested that three underlying dimensions are Optimism, Self-confidence, and Unsocialized Attitudes.

The results of this research have direct implications for improved NYC operations. These implications were discussed in the form of the following seven propositions:

1. The employability of enrollees is enhanced primarily through vocationally-relevant NYC experience.

Post-NYC employment, the primary goal of the NYC program, can be achieved through three main kinds of program operations: job development, the provision of vocationally-relevant work experience, and formal skill training.

a) Effective job development is essential to NYC effectiveness. Effective job development involves locating job opportunities, working with employers to expand available opportunities, and helping enrollees to improve their job-seeking behavior. Our research indicated that this type of assistance was essential for some enrollees.

b) Vocationally relevant work assignments are essential to NYC effectiveness. In addition to providing opportunities for on-the-job training, NYC assignments should provide a variety of vocational experiences, each of which is relevant to existing employment opportunities. The number of work assignments of each type should correspond as closely as possible to the anticipated needs and interests of enrollees.

c) Formal skill training combined with work experience can, in many circumstances, achieve good results. Training in certain types of skills sometimes can be accomplished more efficiently through formal skill-training programs than through on-the-job training. The combination of the two is often an ideal arrangement. The formal training program develops a minimum level of competence in basic skills required by the job, and work experience provides practice in applying these skills in work situations. The Cincinnati Clerical Co-Op program is a good example of a successful program of this type. This program alternates cycles of work experience in firms that are potential employers and training in relevant skills and behaviors in the NYC Educational Center. The effectiveness of this program warrants its consideration as a model that, with appropriate modification, might serve to increase the effectiveness of NYC experience for other enrollees.

2. Enrollees can be categorized according to their needs and differential strategies can be developed.

The employability needs of enrollees cover a wide range. We have noted three general areas of deficiency: rebellious attitude toward authority, low self-esteem, and lack of opportunity. Different types of enrollees can be described as Disadvantaged Graduate, Adverse Situation, Rebel, and Low Self-Esteem. It seems that a useful program approach to enrollee employability needs is to adapt the program elements--work assignments, counseling, and remedial education--to meet these needs. It is, of course, not possible to tailor the NYC to fit each individual's needs. Broad strategies or "program mixes" can be developed, however, which permit a flexible response to enrollee employability needs and promise a higher degree of program effectiveness.

As one element in this research, an instrument was developed for measuring work-relevant attitudes. It is hoped that, when fully developed, this instrument will be useful for individual diagnosis as well as for program design and evaluation.

3. The educational needs of enrollees require active and innovative intervention.

A high proportion of enrollees, including the high school graduates, were so deficient in reading and arithmetic skills as to severely limit their employability. Thus, work-training programs, although valuable for providing credentials and for training individuals in work habits and job skills, need to be supplemented by a remedial education program. In terms of the educational needs of enrollees, the NYC educational component was generally inadequate--particularly for male enrollees. In order to improve the effectiveness of remedial education, NYC programs have two alternatives: (1) the stimulation of local school systems to the end that they will provide an effective resource, or (2) the development of NYC educational capacities.

The Accelerated Learning Experiment indicated that motivation of the enrollee is almost certainly the most important variable determining whether he will participate effectively in educational programs. A significant portion of the enrollees are extremely difficult to motivate and the educational goals of the program, therefore, must be modest if there is any reasonable prospect of their being achieved. For these reasons, three levels of remedial education should be offered to trainees with tie-ins made between the various levels so that enrollees can progress from one level to another.

a) The first level should be directed toward the enrollee with minimal motivation and should be specifically related to the job that the enrollee is to perform and should have the limited objective of improving his performance in a specific job.

b) The second level should be directed toward the remediation of the educational deficiencies of the trainee with the emphasis still placed on making the educational task relevant to work.

c) The third level, concentrated preparation for the high school equivalency test, should be available for all of those who are adequately motivated and whose educational achievement can be raised in a reasonable time to passing of the high school equivalency examination.

4. The continuation of counseling responsibility into the post-NYC period can improve the employment adjustment of former enrollees.

Follow-up interviewing identified a number of ex-enrollees who might have been helped to a satisfactory work adjustment if they had received advice and support during the difficult first months of post-NYC employment.

5. Combinations of multiple assignments, multiple enrollments, and maintained work standards may give the best results for some enrollees.

Seriously disadvantaged youth often need a number of chances--if a single opportunity were enough, most of them could succeed without special assistance. The NYC provides extra opportunity to disadvantaged youth, but the NYC itself should utilize the second--and even, third and fourth--chance concept of offered help. Many enrollees quit the NYC for the very reasons that will prevent them from achieving satisfactory employment: they can adjust no better to work training than to the world of work. For such enrollees, termination is a form of program failure and a furlough, with the opportunity to start again, regardless of the past, holds more promise of program effectiveness. Our data indicated that it is important to maintain reasonable work standards. The consistent application of standards helps the enrollee to discipline himself. At the same time, the door of the NYC should be kept open until it appears that the program cannot meet the youth's needs.

6. NYC enrollment policy that concentrated on "hard core" youth tends to limit program effectiveness.

A program which concentrates on the "hard core" will have little apparent effect and thus will not materially change the enrollee's perception of what is possible for him. A program that also serves the almost-employable, on the other hand, can achieve more effectiveness with employment outcomes providing a practical demonstration to the less-employable that it is possible for people like themselves to obtain interesting and meaningful jobs.

7. Maximum effectiveness of program operations is achieved through a balance of program components.

There is an interaction effect among program components which makes it necessary to give adequate attention to all essential components. For example, effective job development increases the value of counseling by providing an attainable goal. Effective counseling increases the value of job development by improving the attitudes of enrollees and thus making it more likely that the enrollee will be able to perform well on the job. Effective job development and counseling will increase the value of remedial education by raising an enrollee's motivation and making it more likely he will try to learn. Conversely, effective remedial education will increase the job qualifications of the enrollee.

Since this research was undertaken, the NYC has been reorganized. The present program, NYC-2, embodies some of the modifications suggested by the research described in this report. The experience of the NYC-2 program, thus, may provide a test for some of the recommendations developed in this research.

APPENDIX C

A Sample of Product Objectives and Methods for Their Assessment*

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* From An Approach to Evaluation: A Model for Evaluating the North Carolina Exemplary Program, Robert Morgan, Center for Occupational Education, North Carolina State University at Raleigh, July, 1970.

Product Objectives

The product objectives include qualitative and quantitative manifestations of behavior which are expected to change as a result of the participation in the project.

Qualitative Objectives

1. To increase the student's interest in and awareness of occupations in his community;
2. To increase the student's interest in academic subject matter areas by incorporating occupational information into the curriculum;
3. To increase the interest of parents, teachers, and students in occupations;
4. To increase interest in employee abilities and attitudes by students, teachers, and parents;
5. To increase satisfaction with curricular offerings;
6. To increase interest in postsecondary training;
7. To increase interest in occupational course offerings at the high school level;
8. To increase interest in obtaining entry level skills;
9. To increase the student's knowledge of the occupational environment and his own abilities;
10. To increase the number of "rational" occupational decisions.

Quantitative Objectives

1. To increase the number of occupations that a student can name by 50 percent each year;
2. To have each student know the occupations of each of the members of his immediate family (mother, father, brothers and sisters);
3. To increase the number of "good" work habits that each student knows by 50 percent each year;
4. To increase average academic achievement by 5 centiles each year, as measured by the California Achievement Test ;
5. To increase the average daily attendance percentage by 5 percent each year ;

6. To reduce the number of grade failures by 5 percent per year without altering academic standards;

7. To increase the number of parental conferences requested by 5 percent per year;

8. To decrease the dropout rate by 5 percent per year;

9. To increase the number of students in work experience programs by 10 percent per year;

10. To increase the number of requests for career guidance services by 20 percent the first year and 10 percent each of the following years;

11. To increase to 100 percent in three years, the percentage of persons with job entry skills, who do not plan to enter a postsecondary school;

12. To increase the number of students using the occupational information center to 80 percent of the students enrolled within three years;

13. To place all (100 percent) of the graduates and dropouts that seek employment within three years;

14. To increase the proportion of students in the high school enrolled in vocational programs by 5 percent per year;

15. To increase the number of course offerings in vocational areas by two courses per year;

16. To increase the number of students applying for postsecondary education by 5 percent per year.

The evaluation system will be employed to monitor and update the system objectives and program performance. Since the evaluation is dynamic, the objectives can only be viewed as fixed, prior to the first evaluation, which will be based on the performance of the Apex project and other exemplary programs, as well as new research findings.

Qualitative objectives 1, 2, 3, 4, 5, 6, 7, and 8 will be assessed by developing questionnaires based psychometrically on Likert scaling techniques. The increases in the various qualities will be evaluated by a pretest--posttest paradigm, as will all other product objectives. Baseline measures will serve as the starting point against which measures obtained at a later time will be compared.

These questionnaires will be designed for persons in various age groups that are appropriate for the assessment of given objectives. Consultants will be employed to aid in the development of these questionnaires as well as for other aspects of the product evaluation.

Qualitative objective 9 will entail drawing upon items from tests that have previously been developed to measure occupational knowledge, and design a test appropriate for each age group. The knowledge of individual abilities will be assessed by comparing self ratings with best results and ratings by other persons. The increase in knowledge would correspond to a greater degree of agreement between the self rating and the criterion measures.

The assessment of "rational decisions" (qualitative product objective 10) will be limited to grades 7 through 12. The correspondence between stated occupation choice, and the probability of success in the chosen occupations, will be assessed by staff members. If the probability of success is rated below .5, the occupational choice will be considered "irrational decision."

The quantitative product objectives, like the qualitative product objectives, will use baseline measures obtained at the onset of the program as a relative zero point. Quantitative objectives 1, 2, 3, 4, 5, 6, and 7 will be assessed for grades 1-12; objectives 8, 9, 10, 11, 12, and 13 for grades 6-12; and objectives 14, 15, and 16 for grades 9-12.

Objective 1 will be assessed by simply having each student list all of the occupations that he knows and if, for example, he listed 10 occupations on the pretest, a 50 percent increase would require that he be able to list 15 occupations at the beginning of the second year, 20 at the beginning of the third year and 25 at the end of the project.

Objective 2 will be assessed by a listing of occupations of the immediate family. The list will be compared with school records.

Objective 3, like objective one, will be assessed by simply listing "good" work habits. The goodness of the work habits that are listed will be evaluated by staff members. A simple frequency count of the "good" habits will be compared with the baseline measure to ascertain percentage increase.

Objective 4 will be assessed by using population norm deviations to obtain centiles at the baseline. These norms will also be used to ascertain the centiles from which the baseline measures will be subtracted.

The average daily attendance at the high school level is approximately 83 percent. To fulfill objective 5 the attendance percentage must rise to approximately 95 percent.

Without a change in grade policies, the number of grade failures must be reduced by 15 percent of the original number, to fulfill objective 6. A baseline measure will be used.

A number of parental requests for consultation about their child's career plan must be increased by 5 percent per year in order to fulfill objective 7.

The dropout rate in Apex High and Apex Consolidated is approximately 40 percent. To fulfill objective 8 at the end of the program it must be

25 percent or less.

The fulfillment of objective 9 is contingent upon increases in the proportion of students in school-supported work experience by 15 percent, compared to baseline measures.

The fulfillment of objective 10 is based on increasing requests for "career guidance services," as defined by focus of the request, by 20 percent over the baseline measure for the first year and 20 percent the next two years.

The fulfillment of objective 11 requires that each person that graduates from Apex High School who is not planning to continue education will be equipped with entry level job skills.

Objective 12 requires that 80 percent of the students in the middle grades must "use" the Occupational Resources Center. Use is defined as spending at least one hour per semester at the Center.

The fulfillment of objective 13 is contingent upon placing each student who requests placement in a position within a twenty-five mile radius of Apex, North Carolina.

The percentage of students enrolled in vocational programs is approximately 25 percent. To fulfill objective 14, the percentage enrolled must increase to 40 percent. Vocational programs are defined for evaluation purposes as courses that provide the student with job entry skills.

Objective 15 is fulfilled by adding two courses per year to the vocational program curriculum for the three year period.

To fulfill objective 16, it is necessary to increase the proportion of students applying for postsecondary education by 5 percent per year. Postsecondary education means at least one year of education after the completion of high school.

APPENDIX D

SUMMARY AND CONCLUSIONS, Chapter 5 of

Career Thresholds, Volume IV*

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* *Career Thresholds: A Longitudinal Study of the Education and Labor Market Experience of Male Youth*, Center for Human Resources Research, The Ohio State University, Columbus, 1973, Vol. IV, pp. 127-132.

Labor Market Experiences of High School Graduates and Dropouts.

In order to address some of the questions often raised about the effects of leaving school prior to graduation from high school, we have compared the post-school labor market experiences of young men with exactly 12 and those with fewer than 12 years of education who were not enrolled at the time of the 1969 interview. Although there are visible and systematic differences in labor market experience in favor of graduates vis-a-vis dropouts, despite the longer labor market exposure in favor of graduates it is necessary to acknowledge the strong possibility that both dropping out and unfavorable labor market experience are the result of disadvantages which predate departure from school. For example, our measure of mental ability (gathered from school records) exhibits distinct differences in favor of graduates.

The following are the major differences in labor market experience between the graduates and dropouts. (1) Graduates exhibit a higher rate of labor force participation, a lower rate of unemployment, and a greater likelihood of being employed full time, although the gaps appear to narrow with increasing labor market experience. (2) Holders of a high school diploma occupy noticeably higher rungs on the occupational ladder than do young men with less than 12 years of schooling and, among whites, the disparity in occupational distribution appears to widen over time. (3) Graduates were much more likely than dropouts to have participated in a formal occupational training program between 1966 and 1969. (4) Possibly as a consequence of this difference in training, although the monetary advantages of completing high school over dropping out are not realized immediately, by the third year after leaving school, hourly rates of pay of graduates are higher than those of dropouts, i.e., the beneficial effect of labor market exposure on wages seems to be stronger for those with a high school diploma than for those without it. (5) Dropouts are more mobile between employers than are graduates. This is vividly illustrated by the fact that only one-fifth of the white graduates, in contrast to two-fifths of the white dropouts, changed employers three or more times during the period.

In addition to the behavioral and experiential differences which distinguish high school graduates from nongraduates there are discernible differences in two labor-market-related attitudes. First, young men with a high school diploma are more likely than those without one to manifest a strong commitment to work. Secondly, staying in school through high school graduation is positively associated with a strong sense of personal efficacy. Because this psychological trait (i.e., internality/externality) was measured after most of the men discontinued their schooling, it is not possible to be certain of causal direction. However, it is plausible that both more schooling and more favorable labor market experience contribute to the greater sense of personal control expressed by the high school graduates.

Finally, there is some evidence that discontinuation of schooling prior to completing high school is associated with more unfavorable labor market experience for a young black man than for a young white man. The data on unemployment and on hourly earnings indicate that the graduate/dropout gap is wider among blacks than among whites. Furthermore, with the passage of time this gap narrows more (widens less) for whites than for blacks. Stated somewhat differently, the intercolor differences in labor market experience are more pronounced for dropouts than for graduates.

Labor Market Experiences of Out-of-School Youth

In order to examine the dynamics of labor market experience over the entire 36-month period between the first and fourth interviews, we focused on the group of young men who have been out of school at each of the four survey dates. Overall, this group exhibited substantial stability of labor force participation, but disaggregation of the data by age reveals a noticeable positive effect of "aging" on the rate of survey-week labor force participantion. The beneficial impact of "aging" on the probability of being unemployed is also evident, notwithstanding the deterioration of the labor market for young men which occurred between the Autumn of 1968 and the Autumn of 1969.

Interfirm Movement. During the three-year period under investigation about three-fifths of the white and seven-tenths of the black young men changed employers at least once. The probability of having made a change and the probability of having made more than one change are inversely related to age, socioeconomic status of occupation, and hourly wage in the initial year. In addition, there is strong evidence that those who change employers improve their economic position relative to nonchangers, though for whites there appear to be "diminishing returns" to interfirm mobility. Finally, in most age-occupation groups young black men were more likely than their white counterparts to have made one or more interfirm shifts.

In order to differentiate between voluntary and involuntary job changes we directed our attention to the 24-month period between the second (1967) and fourth (1969) interviews. During this time approximately one-half of the employed young men made at least one interfirm shift. Among whites 80 percent of the changers shifted voluntarily while among blacks the corresponding proportion is 60 percent. In addition, men who left their 1967 job voluntarily made fewer job changes between 1967 and 1969 than did those who left their 1967 employer involuntarily. In general, the higher overall rate of interfirm movement among blacks than among whites is attributable to the higher rate of involuntary separation for blacks.

The data provide strong support for the generalization that interfirm movement declines sharply with increasing job tenure. For example, among whites, those with less than one year's service in the 1967 job were twice as likely as those with three or more years of service to change jobs voluntarily (49 versus 24 percent) and seven times as likely to change involuntarily (15 versus 2 percent). An interesting interaction was found between the effects of occupation and tenure on the probability of interfirm movement. That is, among short-service workers the occupational differentials in rates of movement appear to be attributable to occupational differences in the probability of involuntary separation, whereas among those with longer service (three or more years) the source is occupational differences in the rate of voluntary movement.

A rather surprising finding was that, irrespective of tenure, among blue-collar workers educational attainment is negatively associated with the rate of voluntary job changing; suggesting that less skilled youth may be more venturesome in their labor market behavior and perhaps more attentive to alternatives for improving their economic positions. Another set of results indicates that certain attitudinal traits of young workers have some power in predicting interfirm movement. First, our measure of mobility propensity (based on a series of hypothetical-job-offer questions in 1966) shows a monotonic positive relationship with the actual rate of voluntary job changing among whites, but not among blacks. Second, for both color groups, the degree of job satisfaction expressed in 1967 is negatively related to the probability of voluntarily having left that job between 1967 and 1969.

Three additional variables which are found to be correlated with interfirm movement are acquisition of occupational training, extent of unemployment experience, and percentage increase in earnings (pp. 72-75). Among some groups of young men (e.g., those with less than 12 years of schooling) job changers were more likely than nonchangers to have received formal training during the period. The data also show that, irrespective of color, young men who changed employers involuntarily experienced more than seven times as many weeks of unemployment as those who remained with the same employer. The corresponding ratio for the comparison between voluntary movers and nonmovers was 5:1. Among whites this relationship between unemployment and job changing serves to offset the relationship between wage change and job change--i.e., the growth in annual earnings from 1966-67 and 1968-69 is smaller for changers than for nonchangers. In contrast, among blacks the greater wage increases associated with employer changing more than offset the increased joblessness to produce higher growth in annual earnings for those who changed employers. In fact, the average annual earnings of changers was above that of nonchangers in 1968-69, whereas the opposite was true in 1966-67.

Occupational change (defined here in terms of change between one-digit occupation categories) by out-of-school youth is another aspect of labor mobility which has been examined. Whether one considers the time between the first job after leaving school and the job in 1969 or the shorter period between 1966 and 1969 jobs, young men evidence a substantial amount of occupational movement. For example, less than three-tenths of the men were in the same major occupation group in 1969 as the one in which they served their first job. In general, the patterns of change reflect the occupational progress expected as careers unfold--e.g., declines in the occupancy of laborer, service and farm jobs, and an increase in the occupancy of high-level white-collar positions. Many intercolor differences in the pattern of occupational change yield the interpretation that the socioeconomic gap between the color groups was wider in 1969 than when these men first left school.

Age and education are also shown to be correlates of occupational change. Thus, men under 24 in 1969 exhibit more changes between 1966 and 1969 than do their counterparts who were 24 to 27 years old in 1969. This undoubtedly reflects the following facts: (1) by 1966 proportionately more of the older (24 to 27) men had settled into what will be lifetime occupations, whereas many of the younger (17 to 23) men were still experimenting and occupying "apprentice"-level positions in 1966; (2) between 1966 and 1969 many members of the younger group were "outgrowing" the constraints of child-labor laws and facing a wider set of occupational options. Irrespective of age or color, high school graduates advanced more between their initial and 1969 jobs than did their counterparts with less than 12 years of education. For these men without college training, advancement assumed the form of movement up the blue-collar hierarchy and, for whites, some movement into self-employment. For the age-color group (i.e., whites 24 to 27) containing enough sample cases of men who completed some college, the main occupational shifting between first and 1969 jobs is toward managerial and sales positions and away from clerical jobs.

Controlling statistically for age, education, and occupation of first job does not alter the conclusion that the intercolor difference in the pattern of occupational movement has resulted in widening the socioeconomic disparity between whites and blacks. While both groups exhibit perceptible upward movement, the types of changes made by blacks are ostensibly less desirable than those made by whites. For example, among blacks whose first job was as an operative 62 percent were operatives or nonfarm laborers in 1969 and only 15 percent were craftsmen. The corresponding percentages for whites who began as operatives were 43 percent and 30 percent, respectively. From a "standardization" of occupational movement patterns it can be seen that the relationship between initial and current (1969) occupation is stronger among young whites than among young blacks. Yet this has not worked to the relative advantage of the blacks, since their movement out of low status entry-level occupations seems to be more haphazard than is true of the whites.

In addition to examining paths of occupational change, we have begun to investigate the paths which the young men hope to pursue in the future. To summarize these findings most succinctly, one may observe that even after four years of participating in the labor market on a full-time basis, young men exhibit a substantial residue of unreality in their occupational aspirations. More than 40 percent of the white and 60 percent of the black young men aspire (in 1969) to a job at age 30 in a major occupation group different from that in which they are currently (1969) employed, and the types of occupational movement implied by the expressed goals would require a return to formal schooling at a rate which seems highly improbable. Irrespective of age and education, the professed aspirations of employed young black men are more fanciful than those of their white counterparts.

Wage Change. To conclude the study of the three-year labor market experiences of out-of-school youth we examined the changes in hourly rate of pay for those who were employed as wage and salary workers in both 1966 and 1969. The average young white man in this group experienced a 53 percent increase in hourly earnings between those dates, while the figure for his black counterpart was 68 percent. Although this resulted in some diminution of the relative intercolor differential in wages, in 1969 young whites were still earning about a third more per hour than young blacks. As was mentioned above, the rate of wage increase over the period shows a positive relationship with interfirm movement. Finally, our longitudinal data indicate that in the early portion of the life-cycle there is no systematic relationship between measured mental ability, net of schooling, and the rate of increase in hourly earnings. While our measure of ability exhibits a positive relationship (independent of education) with hourly wage in both the 1966 and 1969 cross-sectional data, no regular association is discernible between ability and the measure of longitudinal change in hourly rate of pay.

Changes in the Educational and Occupational Goals of Students

Our examination of two attitudinal dimensions of the lives of young men continuously enrolled in school since the initial survey reveals a vast amount of longitudinal change. Consistent with general theories about stages of career choice formation, these young men exhibited tremendous instability of educational and occupational goals. Changed educational goals were observed among nearly one-half of the youth and revised occupational aspirations characterized about three-fourths of them. The younger students can definitely be identified as passing through what one theorist has entitled the "tentative substage of the exploration stage," while those who were attending college at the outset of the period evidence considerably more stable goals. By and large, intercolor differences in goal revision were small, though blacks tended to be less indecisive in expressing a career choice. For both color groups, changes in occupational preferences occurred mainly within, not across, traditionally defined major occupational categories. Finally, though they permit no inferences regarding growing or diminishing congruence of goals, the data do indicate a substantial positive correlation between changes in educational and occupational aspirations.

APPENDIX E

A Forward Look*

(A Description of a Major Manpower Research Project)

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* Quoted from Years for Decision, Volume I, U.S. Department of Labor, Manpower Research Monograph, No. 24, G.P.O., Washington, 1971, pp. 178-180.

At several places in previous chapters we have referred to important questions for longitudinal analysis which we expect to pursue when data from succeeding surveys become available. It seems fitting to conclude this volume by presenting a somewhat more systematic, though not exhaustive preview of the kinds of analyses we intend to make and the major types of hypotheses we intend to test.

To begin with, collection of detailed work histories over a five-year period will permit us to examine over a long period of time some of the relationships reported here on the basis of data for a single year. An advantage in doing so is that we would expect greater variation in some of the variables over a number of years. For example, a larger fraction of the out-of-school young women who are now 20 to 24 years of age undoubtedly will experience unemployment and periods of withdrawal from the labor force over a five-year than a one-year period. This should increase the statistical reliability of our analysis of, say, the effect of unemployment on work attitudes, since the numerical base of our percentage distributions of those with some unemployment will be larger.

Second, after each survey we expect to describe and to analyze changes in school enrollment status and in various aspects of labor market status. Merely quantifying the extent of gross movement into and out of the formal educational system, the labor force, between employment and unemployment, and among different kinds of jobs will be instructive, since there is little knowledge about the magnitude of these types of change. Of greater interest, however, will be the exploration of the "causes and consequences" of such changes. For example, in what respects do youth who leave school during the course of the year differ from those in the same year of school who continue? What are the relative influences of attitude toward school, marriage and pregnancy, economic need, scholastic ability, socioeconomic background, and characteristics of the school? As another example, to what extent are changes in personal health reflected in movement into or out of school or the labor force? Are the generally higher labor force participation rates of black women systematically related to employment difficulties experienced by many of their husbands? Or, are such rates intimately linked to differences in role expectations and attitudes toward child care that have deeper roots? Are never-married women more likely than their never-married counterparts to make some progress in moving up career ladders over time--a hypothesis suggested by the data in our first report on adult women. Are women who change employers more likely than nonchangers to feel increased satisfaction in their work? Are they more or less likely to earn more money? For any given wage rate adjustment, is there a tendency toward offsetting variation in child-care expenses? These questions are only illustrative of the rich mine of data to be exploited. Our plan of analysis also calls for ascertaining the correlates of most of the dimensions of labor mobility: movement into and out of the labor force; from unemployment to employment and vice versa; between occupations (with or without an accompanying change of employer); between employers with or without an accompanying change of occupation); and between different labor market areas.

A third area of interest, closely related to the second, involves a test of the predictive value of several of the attitudinal measures and an assessment of their stability over time. Are a young woman's plans for age 35 predictive of perseverance in school and future labor force participation in the short run? Do responses concerning what would be done were she to lose her job discriminate between those who, in fact, would leave instead of stay in the labor force? Would the predictive efficiency of these measures be improved by combining them into an index with other measures, such as degree of job satisfaction, motivation to work, perception of their husband's attitudes toward their working, and commitment to the work role? Are the attitudes of these girls toward the proper role of young mothers strong and stable, or are these feckless attitudes subject to alteration as a result of labor market experiences and the availability of child-care services? Answers to these questions have significance both from the standpoint of interpreting labor market behavior and guiding the formulation of policy and from a methodological point of view, since they permit an assessment of the utility of eliciting responses to attitudinal questions.

Fourth, we shall be particularly interested in "career choice" and unfolding life styles. Given changing attitudes on the part of society toward the proper roles of women, there is abundant room, at least in comparison to men, for variation in the degree and timing of participation in formal labor market activities. We wish to know to what extent the educational aspirations and plans of young women change over time.

A fifth area of inquiry concerns career occupational mobility and rates of pay. Commitment to "equal pay for equal work" and concern that career possibilities be open to all, regardless of sex and race, demands that we examine carefully the employment experiences of young women to determine the probable magnitude and location of discrimination in employment. In this regard, several important variables that were not on hand for the present report will be available for use in subsequent ones. Among the most important of these are measures of mental ability (either I.Q., achievement, or aptitude scores) and several characteristics of the high schools attended by the respondents. These data, together with comparable data on young men gathered at the same time, will permit, among other things, refined estimates of the influence of education, sex, and race on occupational assignment and rate of pay. In assessing the influence of years of school completed on earnings, we hope to be able to control for variations in intelligence and variations in the quality of schooling as well as for such factors as socioeconomic status of family and attitudinal characteristics.

Finally, we expect to evaluate the effects of certain changes in the environment within which individuals live and work. What can be done in this connection obviously will depend on how much variation occurs in the "environment" over the five-year period. The influence of recent fluctuation in the level of economic activity on school attendance, on the volume and pattern of mobility, and on degree of attachment to an employer and to the labor force may be explored. Should there be major innovations in human resource and welfare policy, it may be possible to test their effects on the age group of young women under consideration. For example, we may inquire whether reform in the public welfare system and expansion of day-care facilities have any perceptible effect on the labor force participation of young women in poverty families.

APPENDIX F

Viewpoints on Accreditation of Work Experience*

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* From papers presented at the conference, "American Youth in the Mid-Seventies," sponsored by the National Association of Secondary School Principals, 1972.

Papers presented at the 1972 NASSP Conference, "American Youth in the Mid-Seventies," discussed the problem of accreditation. Because of the lack of information on this subject in the materials reviewed for the program summaries, major points of two papers are given below. One paper was presented by an official of the Commission on Secondary Schools, North Central Association, and the other by an officer of the College Entrance Examination Board.

From
A PAPER ON NON-TRADITIONAL MODES OF LEARNING (ACTION-LEARNING) IN REFERENCE TO SECONDARY SCHOOL ACCREDITATION

John A. Stanavage
Executive Secretary
Commission on Secondary Schools
North Central Association
Chicago, Illinois

It is probably safe to say that the NCA Secondary Commission operates on the following principles in regard to action-learning and the other new learning modalities coming to the fore:

1. If the experience has proved educational values, it is and should be creditable.

2. The determination of whether a learning experience relates directly to secondary education, and hence merits school credit, should lie mainly in the hands of the local professional staff.

3. Those learning experiences undertaken beyond the purview of the teachers of the school need subsequently to be verified in some way by the professional staff of the school before credit is to be granted.

The Operative Principles

The Ad Hoc Committee chaired by Wilbert Mick has shared its thinking with the Administrative Committee. The points underscored by the committee well might serve as the framework within which any effort of the Secondary

Commission to accredit those non-standard schools should take place.

In brief review, these working principles are:

1. The basic need is to alter the approach to accreditation for these free-form schools, rather than to futilely attempt specifically to develop standards for them.

2. These schools will be best accredited and evaluated on the basis of their attempts to meet the intent though not the letter of the major standards established for our member schools.

3. The basis of accreditation, both initial and continuing, would have to be an on-site inspection rather than the annual report form process, since the quality and effectiveness of each school could only be determined in light of its own stated purposes and on the basis of the actual situation obtaining in the school.

4. Since frequent periodic examinations (perhaps once every two or three years) are anticipated for these schools, it might be necessary to have them bear a larger part of the costs of these inspections than is true in our normal re-evaluation program.

5. A non-standard school seeking accreditation under these standards would need to have been in existence a stated period of time before its application would be considered by the NCA. This is due to the fugitive nature of so many of these schools.

From
COLLEGE ENTRANCE EXAMINATION BOARD
EVALUATIONS AND ACTION-LEARNING PROGRAMS

Jack R. Childress
Vice President Central
College Entrance Examination Board

The Specific Charge

The questions raised about evaluation and the activities of the College

Board relative to action-learning lend an optimistic overtone to the concern for testing, evaluation, access-transition information and cooperation. Coordination of the efforts of those who wish to provide changes in educational experience for secondary youth and those who have interests and expertise in evaluation can result in better educational designs and broader acceptance of new programs in academic and public circles. The history of the College Entrance Examination Board gives clear indication of a willingness to aid in the promotion of evaluation and of educational change--especially as related to transition and access to post-secondary education. Current practices and programs of the Board are directed toward developing aids for better decisions and better judgements of both formal and informal educational experiences.

1. What is the current and possible future thinking of the CEEB with respect to accreditation of knowledge achieved through action-learning? (What would correspond to the ratings of teachers and other professionals? What assessments of affective growth, by either subjective or objective means would be desirable? What effect, if any, is action-learning apt to have on the definition of a high school diploma or the equivalent?)

2. What effect, if any, will action-learning have on open admissions policies?

Direct, specific and perhaps simple answers can be given to at least portions of these questions by examining past and current activities and actions of the College Board.

1. Accreditation (assessment of individual performance) of knowledge achieved through action-learning has been accepted as a basic principle by

the Board. The development of the College Level Examination Program, the work of the Commission on Testing, the establishment of the Commission on Non-Traditional Study (post-secondary schools) and the joint sponsorship of the Office of New Degree Programs with the Educational Testing Service are all evidence of this concern. They all indicate approval of different styles of learning and the need to provide some evaluative procedures which will give them universal credibility.

2. Action-learning will have limited or no effect on open admission if secondary schools provide direct credit for it or if it is used to meet the requirements for a graduation certificate or diploma. The effect that it will have on students will be pronounced. This generalization will be evident if the processes of learning of individuals going through action-learning have not prepared them appropriately for succeeding academic experiences or if post-secondary schools do not provide programs which allow for readjustment. Testing and evaluation procedures which can provide insights into academic and personal accomplishments will eliminate confusion regarding aptitudes prior to admission.

In addition to these observations, additional comments may be pertinent.

1. The College Board does not have programs or policies which can be said to meet the specific needs of individually designed programs (for students, for isolated schools or for groups of schools).

2. The history of the College Board and the evaluation--measurement--testing movement has been one which indicates an interest in and a concern for meeting new educational needs and demands. An adaptability has been evident which identifies success even though current programs and the present "state-of-the-art" may not be developed to the point of giving immediate service to new endeavors.

3. If secondary schools, colleges, and universities are attempting to determine general aptitudes for continued academic learning regardless of the procedures or processes used to reach this point, a need is prevalent for some type of evaluative instrument. Regardless of the process or method which has been characteristic of a curriculum or program, use can be made of existing College Board or other testing programs to provide insights into academic achievement. While refinements may be needed, the axiom can be accepted--they do the job that they purport to do.

4. If educational institutions do not care to identify any cognitive learning skills or if they do not wish to state the goals of programs, no instruments are required to indicate the success of these endeavors. But are the goals so unique and individualized that no normative testing is needed or desired?

5. If educational institutions are interested in giving the public information which will allow it to make decisions regarding success or failure of individuals or programs, assessment instruments or techniques can be developed to give some basis of confidence in accomplishments and program.

6. If schools are trying to indicate by grades that something has been accomplished in an academic subject or in a cognitive way, those in charge must be able to say what it is and have means of identifying how success was reached.

7. On the other hand, if academic institutions are trying to indicate success in areas which have never been perceived as a part of the educational establishment, why worry about existing measurement or evaluation techniques? Let the end results be used by others in the way that they deem appropriate to judge accomplishment.

Clear and definitive positions need to be taken by institutions and supporters of new programs on issues and procedures related to assessment and accreditation. If isolation from existing techniques and programs is the desired goal, then all involved should be willing to say so. If an inter-relationship between new educational experiences and the traditional goals of the development of skills and certain academic achievement are desirable (and I believe they are), procedures for evaluating both new and old techniques are available or can be developed.

APPENDIX G

Objectives and Institutional Changes Proposed For the Transition from Youth to Adulthood*

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* From Youth to Adult: Institutional Alternatives for Transition, Report of the Panel on Youth of the President's Science Advisory Committee, Draft Copy, 1973.

Objectives

The Panel on Youth placed the objectives for preparing youth for adulthood in two classes: self-centered objectives of acquiring skills and knowledge and objectives relating to responsibilities affecting other persons:

First among the self-centered classes of objectives are those cognitive and non-cognitive skills necessary for economic independence and for occupational opportunities. Although survival in the modern world requires as a minimum a considerable capability in the use of words and numbers, the range of necessary skills beyond that minimum varies as widely as the distribution of occupations within the labor force.

Beyond the acquisition of marketable skills, a second objective consists of developing the capability of effective management of one's own affairs. The emergent adult faces an increasingly complex world, in which self-direction and self-management are prerequisites to success. The current environments imposed on youth by society, in the form of schools, provide little experience with self-management, in large part because, where there is little freedom of choice, there is little self-responsibility. The need for such experience is manifested in the frequency with which the freshmen entering college, and seniors leaving college, experience shock as a consequence of the enlargement of choice. Environments for youth should provide experiences which develop one's capability for managing one's affairs in an organizationally complex world.

A third objective within the self-centered class is to develop capabilities as a consumer, not only of goods, but more significantly, of the cultural riches of civilization. The store of cultural achievements, whether art or literature or music or science, and whether experienced from the standpoint of creator or performer or simply appreciator, enrich the experience of one's life. Some people continue to assimilate these throughout their lives, in a continual expansion of their horizons, but only if they have acquired in youth a sufficient basis of taste and motivation. Environments should provide youth with the kind of experience with cultural achievements that will enable them, as adults, to pursue their tastes in those directions.

As a final objective in this class, environments for youth should also develop in youth the capabilities for engaging in intense concentrated involvement in an activity. The most personally satisfying experiences, as well as the greatest achievements of man, arise from such concentration, not because of external pressure, but from an inner motivation which propels the person and focuses his or her attention. Whether the activity be scholarship, or performance (as in dramatics or athletics), or the creation of physical objects, or still another activity, it is the concentrated involvement itself, rather than the specific content, that is important.

The objectives of the second class, with activities directed toward other persons are equally important. Adulthood cannot be accomplished merely by the acquisition of self-serving capabilities. These must be augmented by capabilities for mutually rewarding involvement with others.

First, it is important to enlarge each person's horizons by experience with persons differing in social class, subculture and in age. For some young persons this has been accomplished by national service in the armed forces or in activities like the Peace Corps. But for most, the opportunities for a broad range of experiences with persons from backgrounds other than their own are simply unavailable.

The second facet of social maturation concerns the experience of having others dependent on one's actions. All persons throughout most of their youth are cast in the role of a dependent on others, while only a few, largely because of family circumstances, have others who are dependent on them. Although a few current school situations do provide appropriate experience of this kind by giving older children some responsibility for the teaching of younger children, this opportunity is atypical. It is important that environments for youth provide opportunities in caring for others who are younger, sick, old, or otherwise dependent, and to engage in activities that are responsible in the sense that they have significant consequences for others. This is a most important apprenticeship for prospective obligations as spouse, parent and citizen.

Social maturity also developes in the context of involvement in interdependent activities directed toward collective goals, where the outcome for all depends on the coordinated efforts of each. A cognate advantage of such joint interprises is that it provides the individual with the opportunity of serving in the capacity of leader as well as follower. All young people are presently subject to the authority and the directives of others, but only a few gain the experience of guiding and leading. Yet those capabilities are necessary for the management of their future families, as well as in their work and community activities.

These kinds of social maturation are now accomplished haphazardly if at all. A prime criterion for assessment of present and prospective environments for youth is their efficacy for filling this void.

It is important to develop in youth an additional set of attributes that arise from both classes of objectives, a sense of identity and self-esteem. These are attributes toward which environments for youth should be directed, for such identity and self-esteem form the foundation on which an adult life is built. Further, environments for youth can be assessed by these criteria just as well as by the objectives discussed earlier.

Proposed Changes

These proposals do not take the form of recommendations for major policy changes, but of recommendations for pilot programs that can be expanded into full-scale policy changes contingent upon assessment of their effects.

The first recommendations concern modifications of the high school, in some cases supporting existing innovations in schools, and in others proposing new directions. Two of these, closely related, are the development of more specialized schools, as distinct from current comprehensive ones, and a reduction in size of high schools. A pattern of simultaneous attendance at more than one specialized school makes possible both the benefits of specialized schools and the benefits of small size. A third proposal recommends the introduction of roles, other than student role, for a young person in a school, particularly that of tutoring or teaching of younger children. Finally, it is proposed that some schools experiment with acting as agent for youth in placing him in fruitful settings outside the school (not only for work experience, but through museums and other cultural institutions, for cultural enrichment as well), concurrent with his continued schooling.

The second proposal is a general encouragement for those innovations which involve a mixture of part time work and part time school, all the way from a daily cycle to a trimester cycle. Where those experiments are already in progress, the report calls for a careful evaluation of the results on the objectives discussed earlier, and not only the narrow objectives of cognitive skills and job skills.

The third proposal recommends pilot programs involving a much more intimate intermixture of school and work, carried out at the workplace. The proposal is to incorporate youth into work organizations with a portion of their time reserved for formal instruction. The change envisioned would mean that persons of all ages in the work organization would engage in a mixture of roles including learning, teaching, and work.

The fourth set of proposals involves youth communities and youth organizations. Youth organizations in the United States and many other countries have long addressed some of the non-academic objectives discussed earlier, and the proposal is designed to encourage their continuation and growth without engaging in administrative control. The proposal is for the federal government to serve as a paying customer for certain public services carried out by youth organizations, thus strengthening both their financial base and their direction and purpose.

It is proposed that the principles of residential youth communities, in which youth provide most of the services, have most of the authority, and carry most of the responsibility, be experimentally extended to non-residential settings. A youth community can provide early assumption of responsibility, and thus fulfill certain of the objectives that are necessary for the transition to adulthood. Experimentation with non-residential communities would increase our information about their benefits and liabilities for the youth within them.

A fifth area of proposals concerns the dilemma of protection vs. opportunity for youth. We feel that current laws and administrative procedures are overbalanced in the direction of protection, and propose two changes toward greater opportunity. The first is an extensive review of the administrative procedures and regulations designed to protect workers under the age of 18. These procedures currently act as a strong disincentive to some employers to hire youth under age 18. Second, we propose broad experimentation with a dual minimum wage, lower for younger workers, before any general increase in the minimum wage is legislated. A high minimum wage can act as a serious disincentive to hiring inexperienced persons, that is, the young.

A sixth proposed change is the introduction, on a pilot basis, of broadly usable educational vouchers from age 16, equivalent in value to the average cost of four years of college. Such vouchers would be usable for a wide range of skill training as well as higher education. The existence of such vouchers would put the decision for further training in the hands of youth who will themselves experience the consequences, and would likely encourage wiser management of one's affairs than do current institutions.

Next, the report proposes a much wider range of opportunity for public service, through federally funded public service programs. Current programs, some of which are strikingly successful, should be modified in these ways:

1) Increased in numbers far beyond their miniscule quantity, now, which is less than 20,000 for an age-cohort of about 4,000,000;
2) Availability from age 16, rather than from age 18, as is true with most current programs;
3) Availability for commitments of one year, rather than two, which is the current standard.

Finally, a number of questions about effects of different environments on youth can be answered by carefully designed research on existing institutions. The final proposal indicates several areas in which such research can be especially valuable, and points to some of the questions such research would answer. (This proposal is discussed above in Chapter 5.)

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